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Dublin Institute for Advanced Studies


ANNUAL REPORT 2003

TUAIRISC BHLIANTÚIL 2003

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Chairman's Introduction/ Réamhrá an Chathaoirligh



In our Strategy Statement (2002-2006), priorities were outlined along with the key areas for action in 2003. Keeping in mind the statutory duties of the Institute; the current government policies in support of research leading to a knowledge society and the challenges in networking with the higher education sector, it was agreed that this first task on the priority list was to achieve the full complement of Senior Professorships in the three Schools. The filling of the senior posts would create new opportunities through attracting overseas students with potential for foreign direct investment and the introduction of new technologies. I am happy to report that this priority task was achieved this year.

The Geophysics section of the School of Cosmic Physics welcomed Professor Alan Jones as successor to the late Brian Jacob. Professor Jones has brought with him a new technique for studying deep geological structures by using the natural time-variation of the earth's magnetic field. A major investment was made by the Institute to accommodate the introduction of this new surveying procedure. Additional staff and students from Ireland and abroad have joined Professor Jones's team at the Institute.

A senior professorship was sanctioned in the School of Celtic Studies. Professor Liam Breatnach, formerly Professor of Early Irish at Trinity College Dublin accepted the position. The Institute is delighted and honoured that Professor Breatnach has joined the school and his arrival in June was welcomed. Professor Breatnach has completed his "Companion to the *Corpus Iuris Hibernici*" which provides a useful guide to the contents of the famous Binchy six-volume opus "*Corpus Iuris Hibernici*" (1978).

Cuireadh tosaíochtaí na hInstitiúide i láthair inár Ráiteas Straitéise (2002-2006), agus roghnaíodh na príomhréimsí a ngníomhófaí iontu sa mbliain 2003. Agus na nithe seo leanas á gcur san áireamh, mar atá, dualgais reachtúla na hInstitiúide, polasaithe Rialtais na linne seo a thacaíonn le taighde a chuireann le forbairt sochaí an eolais, agus na dúshláin a bhaineann le caidreamh a chothú leis an earnáil ard-oideachais, aontaíodh gurb é an chéad sprioc ar an liosta tosaíochta ná an líon iomlán d'Ollúnachtaí Sinsearach sna trí Scoil a bhaint amach. Chruthódh líonadh na bpostanna sinsearach seo deiseanna nua trí mhic léinn ó thar lear a mhealladh chugainn, rud a chruthódh deiseanna d'infheistíocht dhíreach ón gcoigríoch, agus do theicneolaíochtaí nua a thabhairt isteach. Tá áthas orm a chur in iúl gur baineadh an sprioc áirithe sin amach i mbliana.

Chuir an roinn Geofisice de Scoil na Fisice Cosmaí fáilte roimh an Ollamh Alan Jones, a tháinig i gcomharbacht ar Bhrian Jacob, nach maireann. Tá nua-theicníocht tugtha leis ag an Ollamh Jones chun doimhin-struchtúir gheolaíocha a scrúdú trí leas a bhaint as an malartú aiceanta ama a tharlaíonn i raon maighnéadach an domhain. Rinne an Institiúid infheistíocht mhór chun go gcuirfí an modh nua suirbhéireachta seo ar fáil. Tá baill foirne bhreise, agus mic léinn as Éirinn agus ó thar lear, ag obair ar fhoireann an Ollaimh Jones san Institiúid.

Ceadaiódh ollúnacht shinsearach i Scoil an Léinn Cheiltigh. Ghlac an tOllamh Liam Breatnach, a bhí roimhe seo ina Ollamh le Luath-Ghaeilge i gColáiste na Tríonóide, Baile Átha Cliath, leis an gceapachán seo. Is onóir agus is áthas leis an Institiúid an tOllamh Breatnach a theacht chun na Scoile, agus cuireadh fáilte roimhe i mí an Mheithimh. Tá a "Companion to the *Corpus Iuris Hibernici*" curtha i gcrích ag an Ollamh Breatnach, leabhar a sholáthraíonn treoir do shaothar cáiliúil sé-imleabhar an Bhinsigh, "*Corpus Iuris Hibernici*" (1978).

It is satisfying to record the successful collaboration that is blossoming between the schools, due in great part to the technological changes that are occurring with the widespread communication networks of optical fibre communication links and with the development of GRID computing in Ireland. The GRID project is led by the director of the School of Cosmic Physics, Professor Luke Drury and funded through the Programme for Research in Third Level Institutes (PRTL).

The second task envisaged was the strengthening of the links with the Universities and developing, sustaining and positioning the research system. The School of Celtic Studies has advanced this policy through the Irish Script on Screen (ISOS) project, which digitises Irish manuscripts from both public and private collections. This programme directed by Professor Pádraig Ó Macháin is collaborating with Trinity College Dublin, the National Library of Ireland, the Royal Irish Academy, the National University of Ireland, Galway, and has commenced work in September on the Franciscan collection of manuscripts held in the archives at University College Dublin.

Further to our creation of a positive environment within the Institute a third objective in our strategic plan was also achieved this year in the sanctioning of a new Fellowship programme funded by the Department of Education and Science. These prestigious Senior Fellowships named Schrödinger Fellows in the Schools of Theoretical Physics and Cosmic Physics and Bergin Fellows in the School of Celtic Studies will be five-year appointments. The launching of these Senior Fellowships is a welcome development that will strengthen the work of the Schools

Údar misnigh is ea é na scoileanna a bheith ag comhoibriú lena chéile; toradh is ea an comhoibriú seo, cuid mhaith, ar na hathruithe teicneolaíochta atá ag teacht chun cinn de réir mar atá gréasáin chumarsáide atá bunaithe ar shnáithíní optacha ag leathnú, agus de réir mar a dhéantar forbairt ar ríomhaireacht GRID in Éirinn. Tá tionscadal GRID faoi stiúir Stiúrthóra Scoil na Fisce Cosmaí, an tOllamh Luke Drury, agus déantar é a mhaoiniú tríd an gClár do Thaighde in Institiúidí Tríú-Leibhéal (PRTL).

An dara sprioc a chuireamar romhainn ná an caidreamh leis na hOllscoileanna a neartú, agus an córas taighde a fhorbairt, a chothú agus a dhaingniú. Is tríd an tionscadal Meamram Páipéar Ríomhaire (ISOS) atá an polasaí seo á chur chun cinn ag Scoil an Léinn Cheiltigh; tionscadal is ea é seo a dhéanann digitíú ar lámhscríbhinní Gaeilge atá i mbailiúcháin phoiblí agus i mbailiúcháin phríobháideacha. Is é an tOllamh Pádraig Ó Macháin stiúrthóir an tionscadail, agus tá páirt á glacadh ann ag Coláiste na Tríonóide, Baile Átha Cliath, ag Leabharlann Náisiúnta na hÉireann, ag Acadamh Ríoga na hÉireann, agus ag Ollscoil Náisiúnta na hÉireann, Gaillimh. Tosnaíodh mí Mheán Fómhair ar lámhscríbhinní na bProinsiasach a dhigitíú, lámhscríbhinní atá ar coimeád i Roinn na Cartlannaíochta, An Coláiste Ollscoile, Baile Átha Cliath.

Chomh maith le timpeallacht dhearfach a chruthú laistigh den Institiúid, baineadh amach an tríú aidhm inár bplean straitéiseach i mbliana nuair a ceadaíodh clár nua Comhaltachtaí, clár atá maoinithe ag an Roinn Oideachais agus Eolaíochta. Is ceapacháin cúig bliana iad na Comhaltachtaí Sinsearach seo, comhaltachtaí gradamúla a dtugtar 'Comhaltachtaí Schrödinger' orthu i Scoil na Fisce Teoiriciúla agus i Scoil na Fisce Cosmaí, agus a dtugtar 'Comhaltachtaí Uí Aímhíghin' orthu i Scoil an Léinn Cheiltigh. Fáiltítear roimh bhunú na gComhaltachtaí Sinsearach seo; treisóidh siad le saothar na Scoileanna, agus cuirfidh siad le

and increase mobility at a worldwide level in the coming years. To highlight the importance of our young Scholars the fourth strategic objective was to brand the Scholars in the Science schools as Hamilton Scholars in recognition of the Hamilton Centenary in 2005 and O'Donovan Scholars in the School of Celtic Studies.

Planning commenced on the task of reviewing and reporting on the work of the three Schools during the five years 2000-2004. The review will be undertaken by distinguished international experts and will support the Institute in ensuring the best quality in the provision of their research as well as meeting accountability requirements. As an international research organisation, DIAS will need to continue to play its part in creating the European research area in so far as it can provide a platform generating real added Irish value from networking, scientific collaboration and scholarship.

The School of Cosmic Physics is to be congratulated on the excellent organisation of the International NAM Conference, which was held in Dublin Castle in 2003.

Dr. Art Cosgrove completes his term of office as President of University College Dublin in 2003 and as an ex-officio member of the Council of the Institute. The Council is indeed indebted to Dr. Cosgrove for his exceptional generosity to the Institute in giving of his valuable time and for his wise advice. His presence enhanced the effective support of the Council for management decisions and the strategic direction of DIAS.

soghluaiseacht ar bhonn domhanda sna blianta atá le teacht. D'fhonn béim a chur ar thábhacht ár gcuid Scoláirí óga, ba é an ceathrú cuspóir straitéiseach ná na Scoláirí sna scoileanna fisice a ainmniú ina Scoláirí Hamilton, ceiliúradh ar chomóradh céad bliain Hamilton in 2005, agus na Scoláirí i Scoil an Léinn Cheiltigh a ainmniú ina Scoláirí Uí Dhonnabháin.

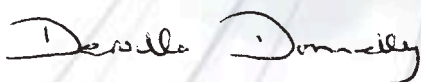
Tosnaíodh sa tréimhse cúig bliana 2000-2004 ar an bpleanáil a ghabhann le saothar na dtrí Scoil a athbhreithniú agus a thuairisciú. Saineolaithe gradamúla idirnáisiúnta a dhéanfaidh an t-athbhreithniú seo, agus cuideoidh sé leis an Institiúid chun a chinntiú go bhfuil a gcuid taighde den cháilíocht is airde, agus go bhfuil a gcuid dualgaisí á gcomhlíonadh go cuí acu. Mar eagraíocht taighde idirnáisiúnta, is dual do DIAS páirt ghníomhach a ghlacadh sa taighde atá ar bun san Eoraip, agus buanna na hÉireann i leith na taighde sin a fhorbairt agus a chur i láthair, idir bhuanna caidrimh, buanna comhoibrithe, agus buanna scoláireachta.

Tréaslaímid le Scoil na Fisice Cosmaí a fheabhas agus a d'eagraigh siad Comhdháil Idirnáisiúnta NAM, a tionóladh i gCaisleán Bhaile Átha Cliath in 2003.

Tháinig téarma an Dr Art Cosgrove mar Uachtarán ar an gColáiste Ollscoile, Baile Átha Cliath, chun deiridh in 2003, agus mar bhall ex-officio de Chomhairle na hInstitiúide. Tá an Chomhairle faoi mhór-chomaoin ag an Dr Cosgrove as a fhlaithiúlacht i leith a chuid ama, agus as a dhea-chomhairle. Ba mhór an crann taca ag an gComhairle é agus cinnte bainistíochta á gcur i bhfeidhm acu, agus treoir straitéiseach na hInstitiúide á beartú acu.

The Council thanks the Department of Education and Science for their continued interest in the work of the Institute and appreciated their presence at the Institute's open day, which gave our scientists an opportunity to explain their present and future research.

I take this opportunity to thank Council, the Governing Boards, the academics and Scholars, and pay tribute to the staff for their hard work and loyalty.



Dervilla Donnelly

Chairman – Council of the Institute

Gabhann an Chomhairle buíochas leis an Roinn Oideachais agus Eolaíochta as suim a chur i gcónaí in obair na hInstitiúide, agus ba mhór ag an gComhairle iad a bheith i láthair Lá Fáiltithe an Phobail, tráth a tugadh deis dár gcuid eolaithe an taighde atá idir lámha acu, agus an taighde atá beartaithe acu, a mhíniú.

Gabhaim buíochas leis an gComhairle, leis na Boird Rialúcháin, leis an bhfoireann acadúil agus leis na Scoláirí, agus molaim an fhoireann uile as a gcuid díograise agus a gcuid dílseachta.



Dervilla Donnelly

Cathaoirleach – Comhairle Na hInstitiúide



Chairman of the Council of the Institute, Prof. Dervilla Donnelly together with the panel of the "The Challenge of Civic Society" debate which was chaired by Dr. John Bowman in November 2003.

Cathaoirleach na Comhairle, an tOllamh Dervilla Donnelly, in éineacht leis an bPainéal a dhein an Díospóireacht ar "The Challenge of Civic Science", agus a raibh an Dr John Bowman mar Chathaoirleach air.

School of Celtic Studies/ Scoil an Léinn Cheiltigh



There was an encouraging number of highpoints for the School of Celtic Studies in the year 2003. A very significant event was the sanctioning by the Minister for Education and Science of the appointment of Liam Breatnach, professor of Early Irish at Trinity College Dublin, to a Senior Professorship at the School. He took up his appointment in June. Another important event was the launch of the late Brian Ó Cuív's *Catalogue of the Irish language manuscripts in the Bodleian Library at Oxford and Oxford College Libraries*. Professor Ó Cuív had largely completed vol. 1 (descriptions of the manuscripts) before his death in November 1999, and it was duly published in 2001. However, some further work remained to be done on vol. 2 (indexes and plates), which was not ready until 2003. The two volumes were launched together on 30th April by his son Éamon Ó Cuív, Minister for Community, Rural and Gaeltacht Affairs, in the presence of a large gathering of scholars and members of the Ó Cuív family, including his widow Emer. The second volume of the *Catalogue* contains a selection of plates (forty in colour and sixteen in black-and-white) from Irish manuscripts at Oxford. Both volumes were enthusiastically reviewed in the *Irish Times* of Saturday 14th February 2004 by Patricia Kelly, and one of the magnificent frontispieces from vol. 1 was reproduced in full colour.

Work continued on the cataloguing of Irish manuscripts in Trinity College Dublin (Aoibheann Nic Dhonnchadha) and in the National Library of Ireland (Pádraig Ó Macháin). The Irish Script on Screen (ISOS) project advanced steadily, and by the end of the year had over 18,000 pages of Irish manuscripts available free of charge on the internet.

Is mór an sásamh do Scoil an Léinn Cheiltigh ar tharla inti sa bhliain 2003. Is mór againn gur cheadaigh an tAire Oideachais agus Eolaíochta go gceapfaí Liam Breatnach mar Ollamh Sinsearach sa Scoil, a bhí ina ollamh le Luath-Ghaeilge i gColáiste na Tríonóide, Baile Átha Cliath roimhe seo. Thosaigh sé ag obair san Institiúid i mí an Mheithimh. Ba bhuaicphointe suntasach ag an Scoil é seoladh leabhar úimléideach Bhriain Uí Chuív, *Catalogue of the Irish language manuscripts in the Bodleian Library at Oxford and Oxford College Libraries*. Bhí bailchríoch nach mór curtha ag an Ollamh Ó Cuív ar an gcéad imleabhar faoin am ar cailleadh é i mí na Samhna 1999, agus cuireadh an chuid sin den saothar i gcló sa bhliain 2001. Bhí roinnt oibre fós le déanamh ar an dara himleabhar (innéacsanna agus plátaí) a cuireadh i gcrích sa bhliain 2003. Ba é a mhac Éamon Ó Cuív, Aire Gnóthaí Pobail, Tuaithe agus Gaeltachta, a sheol an dá imleabhar in éindí ar an 30ú lá d'Aibreán i bhfianaise slua mhóir – scoláirí, agus teaghlach Uí Chuív féin, a bhaintreach Emer san áireamh. Tá díolaim plátaí sa dara himleabhar den *Catalogue* (dhá scór pláta daite agus sé cinn déag dubh agus bán) bunaithe ar lámhscríbhinní Gaeilge in Oxford. Bhí léirmheas moltach le Patricia Kelly ar an *Irish Times* (Dé Sathairn, 14 Feabhra 2004), mar aon le tultmhaisiú breá daite ón gcéad imleabhar.

Leanadh de chatalógú na lámhscríbhinní Gaeilge i gColáiste na Tríonóide (Aoibheann Nic Dhonnchadha) agus i Leabharlann Náisiúnta na hÉireann (Pádraig Ó Macháin). Rinneadh an-dul chun cinn sa tionscnamh Meamram Páipéar Ríomhaire / Irish Script on Screen (MPR / ISOS), agus faoi dheireadh na bliana bhí níos mó ná 18,000 leathanach de lámhscríbhinní Gaeilge ar fáil saor in aisce ar an nGréasán Domhanda. Tugtar cuairt ar shuíomh idirlín MPR/ISOS (www.isos.dcu) tuairim is 40,000 uair sa mhí – léiriú suntasach ar an éileamh forleathan atá ar an áis taighde seo. Chuir Stiúrthóir

The ISOS site (www.isos.dcu) receives an average of 40,000 visits per month – an indication of its remarkably wide appeal. The Director of the project, Pádraig Ó Macháin, provided the Governing Board with a detailed plan for further digitising of Irish manuscripts – in both public and private collections – up to the end of the decade. In September, work started on the digitisation of the Franciscan collection of manuscripts now held in University College Dublin. Digitisation of manuscripts also continued during the year at the Royal Irish Academy, the National Library of Ireland, and the National University of Ireland, Galway.

The School's journal *Celtica* 24, edited by Malachy McKenna and Fergus Kelly, was published in July in memory of Professor Brian Ó Cuív, slightly over three years after the publication of *Celtica* 23. It was made available free of charge on the School's website from October 2003. This 374-page volume contains contributions – articles, review-articles and reviews – in English and Irish from thirty-two scholars, most of them current staff-members or former research scholars at the School. It is the first volume of *Celtica* ever to have included illustrations in colour. Articles and reviews are already being accepted for *Celtica* 25, which is due to be published in 2006. Articles for this volume will be formally peer-reviewed, and a new style-sheet has been prepared for contributors.

The School continued to devote much of its resources to the study of the modern dialects of Irish. Siobhán Ní Laoire prepared three articles on Modern Irish sociolinguistics for submission to refereed journals of

an tionscnaimh seo, Pádraig Ó Macháin, plean deich mbliana do dhigitiú lámhscríbhinní Gaeilge (i mbailiúcháin phoiblí agus phríobhaideacha) faoi bhráid Bhord Stiúrtha na Scoile. Tosaíodh i mí Mheán Fómhair ag obair ar bhailiúcháin lámhscríbhinní na bProinsiasach atá anois lonnaithe sa Choláiste Ollscoile, Baile Átha Cliath. Rinneadh digitiú le linn na bliana ar lámhscríbhinní de chuid Acadamh Ríoga na hÉireann, Leabharlann Náisiúnta na hÉireann, agus Ollscoil Náisiúnta na hÉireann, Gaillimh.

I mí Iúil foilsíodh iris acadúil na Scoile *Celtica* 24 (in ómós don Ollamh Brian Ó Cuív) arna chur in eagar ag Malachy McKenna agus Fergus Kelly, trí bliana tar éis fhoilsiú *Celtica* 23. Cuireadh an iris seo ar fáil saor in aisce ar shuíomh idirlín na Scoile ó mhí Dheireadh Fómhair ar aghaidh. San imleabhar seo, a bhfuil 374 leathanach ann, tá ábhar (ailt, ailt léirmheasa agus léirmheasanna) i nGaeilge agus i mBéarla ó 32 scoláirí, ar baill foirne nó iarscoláirí taighde de chuid na Scoile a bhformhór. Is é an chéad imleabhar de *Celtica* é a raibh léaráidí daite ann. Táthar ag glacadh cheana féin le hait agus le léirmheasanna do *Celtica* 25, a fhoilseofar sa bhliain 2006. As seo amach déanfar moltóireacht seachtrach ar gach alt do *Celtica*. Réitíodh bileog nua stíle d'údair chomh maith.



linguistics. Malachy McKenna worked on his account of the phonology, morphology, syntax and lexicon of the Irish of Rann na Feirste, Co. Donegal. He completed for refereeing *Seanchas Rann na Feirste*, a book of folk-tales, poetry and lore from this area, which will be accompanied by an audio-tape/disc. While external referees prepared their reports on his three-volume study of *The Irish of Iorras Aithneach, Co. Galway*, Brian Ó Curnáin carried out further investigation on the Irish of central Connemara, the Joyce Country and East Galway. The publication of *An Haicléara Mánas*, edited and translated by Nancy Stenson, is a major achievement for the School. Nancy Stenson was a research scholar at the School from 1976 to 1977, and is currently associate professor in the Department of Linguistics at the University of Minnesota. She has visited the School regularly to work on this edition with assistance from Máirtín Ó Murchú and Michelle O Riordan. These tales about a hackler or flax-dresser named Mánas were probably written in America by Patrick Lyden, born near Clifden in 1832. He was a native speaker of Irish, but could not write the language, and used instead a quasi-phonetic orthography based on English. As well as being of interest as social history and folklore, the tales provide a great deal of information about the Irish spoken in the Clifden area around the middle of the nineteenth century. The book was launched on 21st November by Pádraic Ó Ciardha, Leascheannasaí TG4, and a research scholar at the School from 1975 to 1977.

I mbliana caitheadh cuid mhaith d'acmhainní na Scoile ar a tacaíocht leanúnach do staidéar ar chanúintí na Nua-Ghaeilge. Réitigh Siobhán Ní Laoire trí alt ar shochtheangeolaíocht na Nua-Ghaeilge lena gcur faoi bhraid irisí teangeolaíochta a bhfuil córas seachtrach moltóireachta i bhfeidhm orthu. Rinne Malachy McKenna taighde ar fhóneolaíocht, mhorfeolaíocht, chomhréir agus fhoclóir Ghaeilge Rann na Feirste, Co. Dhún na nGall. Tá leabhar (*Seanchas Rann na Feirste*) ar scéalta, fhilíocht agus seanchas an cheantair seo réidh aige le cur faoi bhráid moltóirí seachtracha, agus tá sé i gceist go mbeidh téip nó dlúthdhiosca in éindí leis. A fhad is a bhí moltóirí seachtracha ag iniúchadh trí imleabhar Bhriain Uí Churnáin, *The Irish of Iorras Aithneach, Co. Galway*, rinne sé tuilleadh taighde ar Ghaeilge lár Chonamara, Dhúthaigh Sheoighe agus Oirthear na Gaillimhe. Tá an Scoil an-sásta gur foilsíodh *An Haicléara Mánas* atá curtha in eagar agus aistrithe ag Nancy Stenson, a bhí ina scoilaire taighde sa Scoil sna blianta 1976 agus 1977, agus atá faoi láthair ina comhollamh i Roinn na Teangeolaíochta in Ollscoil Mhínnesota. Tá cuairteanna tugtha aici ar an Scoil go rialta ó shoin ar mhaithe le hobair a dhéanamh ar an eagrán seo le cabhair agus comhairle ó Mháirtín Ó Murchú agus ó Mhichelle O Riordan. Pádraig Ó Loideáin a rugadh gar don Chlochán sa bhlian 1832 agus a chuaigh go Meiriceá ina fhear óg, is dóichí, a scríobh na scéalta seo faoi Mhánas Haicléara (i.e. fear taistil a réitíodh líon ar a phá). Cainteoir dúchais Gaeilge a bhí ann nach raibh gnáthscríobh na Gaeilge aige, agus dá bhrí sin bhain sé earraíocht as ortagrafaíocht fhoghraíoch a bhí bunaithe ar litriú an Bhéarla lena scéal a inseacht. Tugann na scéalta seo léargas dúinn, ní hamháin ar shaol sóisialta agus ar bhéaloideas an 19ú céad ach freisin ar an nGaeilge a labhraítí thart ar an gClochán. Ba é Pádraic Ó Ciardha (Leascheannasaí TG4 agus iarscoláire de chuid na Scoile ó 1975 go 1977) a sheol an leabhar ar 21 Samhain.

As well as publishing a number of articles and reviews relating to Gaelic dialectology and historical linguistics, Roibeard Ó Maolalaigh continued work – with the assistance of Clare Downham – on the Bibliography of Irish Linguistics and Literature Project, including ongoing development of a new database. The digitisation of the *Bibliography of Irish Linguistics and Literature 1942-71* was completed, and this volume will soon be made available in searchable form on the Internet. A list of Brian Ó Cuív's publications from 1942-1971 was published in *Celtica* 24, and a bibliography of publications relating to Celtic Studies by Eric P. Hamp was also completed.

Significant progress can be reported in the study of Early Irish (Brehon) law. Liam Breatnach completed his *Companion to the Corpus Iuris Hibernici*, which will provide a much-needed guide to the contents of Binch's six-volume *Corpus Iuris Hibernici* (1978). This book is scheduled for publication in late 2004 as vol. 5 in the Early Irish Law Series. Liam Breatnach also conducted a weekly seminar on the law-text *Córus Bésnái*, which deals with the relations between clergy and laity. Gerald Manning likewise continued his weekly seminar on the law-text on status, *Míadshlechteae*. Fergus Kelly worked on an edition of the thirteenth century *Legal Treatise* by Giolla na Naomh Mac Aodhagáin. On 3rd March, Thomas Charles-Edwards, professor of Celtic at the University of Oxford, delivered a lecture on the law-text *Bretha Comaithchesa* 'judgements of neighbourhood'. He intends to edit this text for the Early Irish Law Series.

Chomh maith le roinnt mhaith alt agus léirmheasanna a chur i gcló ar logainmneacha na nGael in Éirinn agus in Albain, ar chanúineolaíocht agus ar theangeolaíocht stairiúil na Gaeilge is na Gàidhlighe, choinnigh Roibeard Ó Maolalaigh air, agus Claire Downham ag cúnamh dhó, ag obair ar Thionscnamh Bhibleagrafaíocht Theangeolaíocht is Litríocht na Gaeilge, agus ag cur barr feabhais ar an mbunachar sonraí nua. Tá téacs iomlán *Bibliography of Irish Linguistics and Literature 1942-1971* curtha suas ar ríomhaire, agus nuair a bheidh an t-ábhar curtha isteach i mbunachar sonraí nua, cuirfear ar fáil é go poiblí ar an nGréasán Domhanda. D'fhoilsigh sé liosta gearrtheideal d'fhoilseacháin Bhriain Uí Chuív idir na blianta 1942-71 ar *Celtica* 24, agus tiomsaíodh liosta agus baillúchán d'fhoilseacháin Eric P. Hamp a bhaineann leis an Léann Ceilteach.

Rinneadh an-dul chun cinn i staidéar Dhlíthe na Luath-Ghaeilge. Chríochnaigh Liam Breatnach *Companion to the Corpus Iuris Hibernici*, treoirléabhar luachmhar, a bhfuil géarghá leis, do *Corpus Iuris Hibernici*, 6 imleabhar (1978). Táthar ag súil go mbuailfear cló ar an leabhar seo roimh dheireadh na bliana 2004 mar imleabhar 5 i Sraith Dhlíthe na Luath-Ghaeilge. Thug Liam Breatnach seimineár seachtainiúil ar an téacs dlí *Córus Bésnái*, a phléann an gaol idir cléir agus tuath. Thug Gerald Manning seimineár seachtainiúil ar *Míadshlechteae*, téacs dlí a bhaineann le cúrsaí stádaís. Rinne Fergus Kelly obair ar eagrán de *Thráchtas* dlí a scríobh Giolla na Naomh Mac Aodhagáin sa tríú haois déag. Ar 3 Márta thug Thomas Charles-Edwards, ollamh le Ceiltis in Ollscoil Oxford, léacht ar an téacs dlí *Bretha Comaithchesa* ('breithiúnas comharsanachta'), a bhfuil sé i gceist aige é a chur in eagar mar chuid de Shraith Dhlíthe na Luath-Ghaeilge.



The Twelfth International Congress of Celtic Studies was held in Aberystwyth from 24th-30th August. A display and sale of the School's recent publications was organised – gratitude is due to staff-members and research scholars who helped with this task. Delegates to the Congress were presented with the 2003 revision of the *Catalogue of Publications* as well as the School's new twelve-page illustrated brochure in Irish and English, edited by the School Administrator Eibhlín Nic Dhonncha.

To celebrate the centenary of the founding of the School of Irish Learning in Dublin by the great German scholar Kuno Meyer, a lecture at the School of Celtic Studies was delivered by Gearóid Mac Eoin, formerly professor of Old and Middle Irish at the National University of Ireland, Galway, and Assistant Professor at the School of Celtic Studies from 1963-1966. He demonstrated that the School of Irish Learning could in many respects be regarded as the precursor of the School of Celtic Studies. The School also produced a postcard – designed by the School Administrator Eibhlín Nic Dhonncha – to celebrate this centenary.

Fergus Kelly delivered the biennial Sir John Rhys Memorial lecture at the British Academy, London, on 9th October. The topic was 'Thinking in threes: the triad in early Irish literature'. It will be published in the *Proceedings of the British Academy* in 2004.

The School's annual Tionól/Symposium goes from strength to strength, with even greater numbers of participants than last year – many of them from abroad. This year's event took place on Friday/Saturday 21st/22nd November, and sixteen papers were delivered by scholars from Ireland, England, Wales, Italy, Sweden, the United States of America, Russia, Finland, Austria and Germany. The Statutory Public Lecture was given by Seán Ó Coileáin, professor of Modern Irish at University College Cork, on the topic 'When oral becomes literary: the case of *Caoineadh Airt Uí Laoghaire*'.

Tionóladh 12ú Comhdháil Idirnáisiúnta an Léinn Cheiltigh in Aberystwyth idir 24–30 Lúnasa. Eagraíodh taispeántas de leabhair na Scoile agus díoladh cuid mhaith leabhar, a bhuíochas sin do bhaill foirne agus scolairí taighde a chuidigh leis an obair. Bronnadh cóip leasaithe de *Chatalóg na bhFoilseachán* ar thoscairí na Comhdhála, agus cóip de bhróisiúr dátheangach (12 leathanach) chomh maith a chuir Riarthóir na Scoile, Eibhlín Nic Dhonncha, in eagar.

Ar mhaithe le comóradh céad blian Scoil Ard-Léighinn na Gaedhilge i mBaile Átha Cliath a bhunaigh an scoláire Gearmánach mór le rá Kuno Meyer, thug Gearóid Mac Eoin, iarollamh le Sean- agus Meán-Ghaeilge in Ollscoil Náisiúnta na hÉireann, Gaillimh, léacht chomórtha; bhí an tOllamh Mac Eoin ina Ollamh Cúnta i Scoil an Léinn Cheiltigh ó 1963–66. I measc rudaí eile léirigh sé gur oidhre í Scoil an Léinn Cheiltigh ar Scoil Ard-Léighinn na Gaedhilge. Foilsíodh cárta poist – a dhear Riarthóir na Scoile, Eibhlín Nic Dhonncha – chun an comóradh céad blian a cheiliúradh.

Thug Fergus Kelly Léacht Cuimhneacháin dhébhlantúil Sir John Rhys in Acadamh na Breataine i Londain ar 9 Deireadh Fómhair. 'Thinking in Threes: the triad in early Irish Literature' an teideal a bhí aige. Foilseofar an léacht ar *Proceedings of the British Academy* sa bhliain 2004.

Tá Tionól bliantúil na Scoile ag dul ó neart go neart, agus líon na dtoscairí níos airde i mbliana ná anuraidh, cuid mhaith acu a thrial thar lear chun an Tionóil. Ar an Aoine is ar an Satharn a tionóladh an chomhdháil agus léadh 16 pháipear le scolairí ó Éirinn, ó Shasana, ón mBreatain Bheag, ón Iodáil, ón tSualainn, ó Mheiriceá, ón Rúis, ón bhFionnlainn, ón Ostair agus ón nGearmáin. Ba é Seán Ó Coileáin, ollamh le Nua-Ghaeilge i gColáiste na hOllscoile, Corcaigh, a thug an Léacht Reachtúil dar teideal 'When oral becomes literary: the case of *Caoineadh Airt Uí Laoghaire*'.

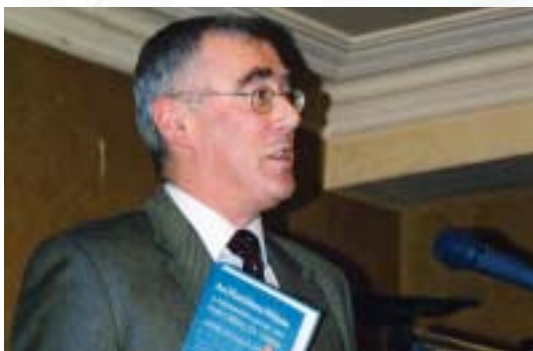
The School's first John O'Donovan Scholars were appointed on 1st October 2003. They are Jennifer Ní Ghrádaigh and Nicholas Evans. These scholarships have been named in memory of the renowned scholar John O'Donovan (1806-61).

The death occurred during the year of T. Arwyn Watkins, formerly professor of Welsh at University College Dublin, who was Research Associate of the School since 1989. Over the years he carried out a great deal of work on behalf of the School, and served as co-editor of the Medieval and Modern Welsh Series along with Proinsias Mac Cana.



Éamonn Ó Cuív, T.D., Minister for the Community, Rural and Gaeltacht Affairs, launching "Catalogue of Irish Language Manuscripts in the Bodleian Library at Oxford and Oxford College Libraries (parts 1 and 2)".

Éamonn Ó Cuív, T.D., Aire Gnóthaí Pobail, Tuaithe agus Gaeltachta ag seoladh "Catalogue of Irish Language Manuscripts in the Bodleian Library at Oxford and Oxford College Libraries (parts 1 and 2)".

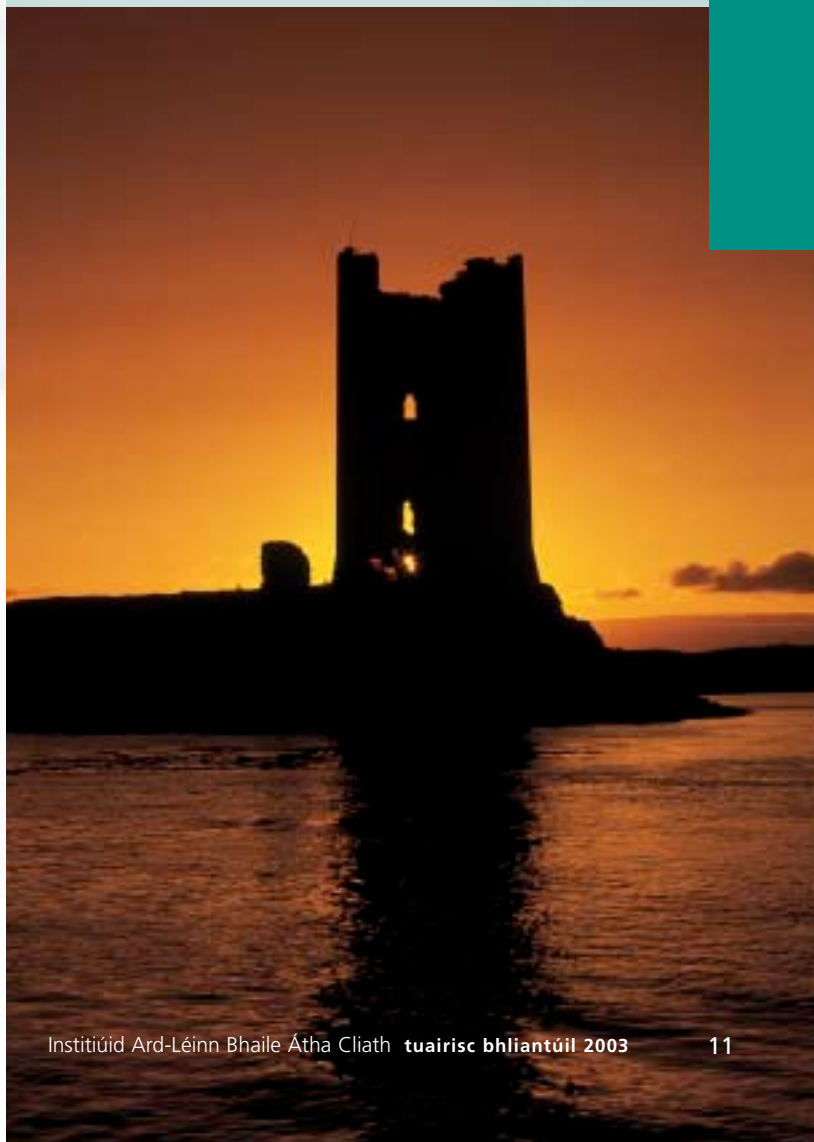


Pádraic Ó Ciardha (TG4) launching the book "An Haicléara Mánas", edited by Nancy Stenson, in November 2003.


Pádraic Ó Ciardha (TG4) ag seoladh "An Haicléara Mánas", eagraithe ag Nancy Stenson, Samhain 2003.

Ceapadh na chéad scoláirí Sheáin Uí Dhonnabháin ar 1 Deireadh Fómhair 2003: Jenifer Ní Ghrádaigh agus Nicholas Evans. Ainmníodh na scoláireachtaí seo i gcuimhne ar an scoláire clúiteach Seán Ó Donnabháin (1806-61).

I gcaitheamh na bliana cailleadh Arwyn Watkins, iarollamh le Breatnais i gColáiste na hOllscoile, Baile Átha Cliath agus Comhphairtí Taighde de chuid na Scoile ón mbliain 1989 i leith. Thar na blianta rinne sé cuid mhaith oibre ar son na Scoile, agus bhí sé ina chomheagarthóir le Proinsias Mac Cana ar an Sraith Meán- agus Nua-Bhreatnaise.



School of Cosmic Physics/ Scoil na Fisice Cosmaí



Of all three constituent schools currently comprising the Institute, the School of Cosmic Physics has the most extensive remit. Its mission, to use Physics to study and understand the world around us means that its interests extend from, literally, the centre of the Earth to the edges of the visible Universe. Traditionally such studies have rested on two pillars: observation and theory. We use sophisticated instruments and facilities to gather detailed information about specific aspects of the world, and we interpret these observations within a theoretical framework, which is then refined and tested against the measurements. However we live in exciting times, and a third pillar is rapidly gaining in importance, the pillar of advanced computing. This reinforces the other two by allowing, on the one hand, much more sophisticated combinations of much larger sets of observations than was previously possible, and, on the other, the computational simulation of theoretical models at a level of detail far beyond what was possible by traditional methods.

The growth in importance of this third pillar is closely linked to technological change. Over the last decade or so the widespread installation of optical fibre communication links, combined with improvements in optronics, have brought us to the point where the communication networks connecting computers are now as fast as the computers themselves. This has already had profound implications for the way we work, and there is every reason to expect that these changes, associated with the concepts of grid-computing and virtual organisations, will accelerate in the future. Through strategic planning and initiative, the School has acquired a lead position in the development of

De na trí chomhscoil atá mar chuid den Institiúid faoi láthair, is í Scoil na Fisice Cosmaí an scoil is fairsinge feidhm. Is é misean na Scoile, Fisic a úsáid le staidéar a dhéanamh agus tuiscint a fháil ar an domhan mórthimpeall orainn agus ciallaíonn sé sin go síníonn spéiseanna na scoile go fírinneach ó lár an Domhain go dtí imill na Cruinne atá le feiceáil againn. Riamh is ar dhá philéar a dhírigh staidéir den sórt sin; breathnú agus teoriric. Bainimid úsáid as ionstraimí sofaisticiúla agus as saoráidí le mioneolas a bhailiú faoi ghnéithe sainiúla den domhan, agus mínimid gach a bhfeicimid laistigh de chreat oibre teoriciúil a dhéantar a ghlanadh agus a thástáil in aghaidh na dtomhas. Mairimid i ré beo bríomhar áfach agus tá tábhacht ag teacht leis an tríú piléar seasta, is é sin ard-ríomhaireacht. Treisíonn sé seo an dá cheann eile, trí ar lámh amháin, deis ar níos mó teaglamacha sofaisticiúla de shraitheanna breathnaithe nach bhféadfaí a dhéanamh roimhe seo, agus ar an lámh eile, insamhladh ríomhraithe ar shamhlacha teoriciúla ag leibhéal sonraí atá i bhfad chun tosaigh ar mhodhanna traidisiúnta.

Tá dlúthcheangal ag an bhfás atá ar thábhacht an tríú piléar seo le hathrú teicneolaíochta. Le deich mbliana anuas, mar gheall ar shuiteáil fhorleathan a bheith déanta ar nascanna cúmarsáide snáithíní optaice, chomh maith le feabhas ar ophtrónaigh, táimid anois ag an bpointe go bhfuil na líonraí cúmarsáide a cheanglaíonn ríomhairí chomh scioptha leis na ríomhairí iad féin. Tá tionchar ollmhór aige sin cheana féin ar an mbealach a n-oibrímid, agus tá gach cosúlacht air go dtiocfaidh borradh mór faoi na hathruithe seo, a bhaineann le coincheapa ríomhaireacht-greille agus eagraíochtaí fóirúla amach anseo. Trí phleanáil agus thionscnamh straitéiseach, tá an Scoil chun tosaigh ó thaobh fhorbairt ríomhaireacht greille in Éirinn leis

grid computing in Ireland through its organisation of the PRTL-funded CosmoGrid project, the first major virtual organisation supported by Grid-Ireland. A major concern during the year under review was the uncertainty surrounding the “pausing” of the capital element of cycle-III projects, and it was a very considerable relief when towards the end of the year full funding was reinstated by the Higher Education Authority. In addition to its contribution to specific research areas of the School, CosmoGrid is important as an example of how the Institute can strengthen its interaction with the rest of the Irish research community. The fact that we have been able to set up a virtual organisation spanning some nine academic institutions and three major disciplines is, in itself, remarkable and should serve as a model for future collaborations.

Turning to the three sections of the School, the Astronomy Section expanded its activities in the topical area of Gamma Ray Burst (GRB) research. These extremely energetic explosive events are studied with a dedicated automatic telescope, the REM (for Rapid Eye Mount), that became operational towards the end of the year. The REM telescope is run by an Italian-led, international consortium, in which Dunsink Observatory (together with UCD) participates. The REM is located at the European Southern Observatory, La Silla (Chile), and specialises in Near-Infrared observations. Several supporting projects were conducted in the Astronomy Section, such as simulations of the so-called dark GRB population (not giving rise to the characteristic transient emission at optical wavelengths, after the initial gamma-ray event), decay light curve studies and high-resolution spectroscopy that reveals detailed structure in the interstellar medium surrounding the bursts.

an tionscadal CosmoGrid, atá maoinithe ag an PRTL, a eagrú, an chéad mhóreagraíocht fhíorúil atá ag fáil tacaíochta ó Grid-Ireland. Cúis mhór imní le linn na bliana a bhí faoi athbhreithniú ná an neamhchinnteacht a bhain leis an ‘sos’ a tháinig ar na ngné chaipitil de thionscadail sraith-III, agus ba mhór an chúis ríméid é i dtreo dheireadh na bliana nuair a thug an tÚdarás um Ard-Oideachas maoiniú iomlán ar ais don tionscadal. Chomh maith leis an gcabhair a thug CosmoGrid i réimsí taighde saineúla na Scoile, tá CosmoGrid tábhachtach mar shampla ó thaobh an bhealaigh ar féidir leis an Institiúid a hidirghníomhú a láidriú leis an gcuid eile de phobal taighde na hÉireann. Is éacht ann féin é gur féidir linn eagraíocht fhíorúil a chur le chéile a chlúdaíonn naoi n-institiúid acadúla agus trí dhisciplín ollmhóra agus ba chóir go mbeadh sé sin ina shamhail do chomhoibreacha amach anseo.

Agus muid ag díriú ar na trí Roinn sa Scoil, leathnaigh an Roinn Réalteolaíochta a cuid gníomhaíochtaí sa réimse taighde Rois Gháma-Ghathach (RGG) atá go mór i gceist. Déantar staidéar ar na hócáidí pléascacha seo atá lán d’fhuinneamh le teileascóp uathoibríoch tiomanta, an REM (Rapid Eye Mount), a thosaigh ag obair i dtreo dheireadh na bliana. Tá an teileascóp REM á stiúradh ag cuibhreannas idirnáisiúnta Iodálach, ina nglacann Réadlann Dhún Síne (in éineacht le UCD) páirt. Tá an REM lonnaithe ag Réadlann Theas na hEorpa, La Silla (An tSile), a dhéanann speisialtacht i mbreathnuithe neas-infiridhearga. Reachtladh roinnt tionscnamh tacaíochta sa Roinn Réalteolaíochta, mar insamhladh ar an daonra GRB dorcha mar a thugtar air (nach dtagann astú diomuan ag tonnfhad optaice, tar éis an chéad ócáid gháma-ghathach), staidéir meatha chuar an tsolais agus speictreascópacht ardtaifeach a léiríonn go bhfuil struchtúr sonrach ag baint leis an meán idir-réaltach atá timpeall na roiseanna.

Further observational opportunities were opening up by the end of the year, when, in collaboration with UCD and CIT, a modern CCD (charge coupled device) camera was prepared for operation at Abastumani Observatory (Georgia). The purpose of this camera is to monitor the variability of certain types of galaxies exhibiting “activity” in their centres, and also to engage in GRB counterpart studies from the Northern Hemisphere. Still another professional-grade CCD camera was acquired for tests, training and pilot projects at Dunsink. One final-year student project, for example, established a protocol for fast-reaction CCD photometry using the Dunsink equipment.

The active nuclei and the prevalence of high levels of star formation in galaxies constitute an important area of study for the Astronomy Section. One PhD thesis on the occurrence of high-energy flares in the nuclei of normal galaxies was completed, showing that the rate at which such flares occur is an order of magnitude lower than had been previously estimated. Another example of a particular case study is that of the Infrared-bright galaxy Markarian 297, the “starburst” characteristics of which were investigated with the help of data from the InfraRed Space Observatory, demonstrating amongst other things the presence of strong stellar winds typical of very young massive stars. For the young, evolving stellar populations in the extragalactic objects where star formation proceeds vigorously, emission from the most massive stars is always conspicuous. Various aspects of such massive stars in our own Galaxy were studied, in order to understand better what is observed in other galaxies.

Tháinig breis deiseanna breathnaithe chun cinn faoi dheireadh na bliana nuair a hullmhaíodh, i gcomhar le UCD agus CIT, ceamara nua-aimseartha CCS (feiste luchtchúpláilte) le hoibriú ag Réadlann Abastumani (Georgia). Is é an aidhm a bhí leis an gceamara monatóireacht a dhéanamh ar inathraitheacht cineálacha áirithe réaltra a léiríonn ‘gníomhaíocht’ ina gcuid ionad, agus chomh maith leis sin páirt a ghlacadh i staidéir chontrapháirte GRB ón Leathsféar Thuaidh. Ach bhí ceamara CCD ar ghrád proifisiúnta fós ag teastáil le haghaidh tástálacha, oiliúna, agus tionscadail phíolótacha ag Dún Since. Bhunaigh mac léinn tionscadail a bhí sa bhliain deiridh mar shampla, prótacal le haghaidh fótaiméadracht CCD le himoibriú tapa ag baint úsáide as trealamh Dhún Since.


Is réimse thábhachtach staidéir don Roinn Réalteolaíochta é an núicléas gníomhach agus na leibhéil arda foirmiú réalta i réaltraí. Comhlánadh tráchtas amháin PhD ar bladhairí ardhuinnimh i núicléas gnáth réaltraí, ag taispeáint gur ordú méide é an ráta ag a dtarlaíonn bladhairí den sórt atá níos ísle ná mar a measadh roimhe sin. Sampla eile de chás-staidéar áirithe is ea réaltra Markarian 297 Infridhearg geal, na saintréithe ‘réaltbhrúchtadh’ a ndearnadh scrúdú orthu le cúnamh ó na sonraí as an Réadlann Spáis Infridhearg, ag léiriú i measc go leor nithe eile gaotha réaltachta láidre a bhí cosúil le réalta móra óga. Don óige, daonraí réaltachta éabhlóideacha sna nithe eachtar-réaltracha áit a dtéann foirmiú réalta chun cinn go láidir, bíonn astú ó na réaltaí is mó i gcónaí feiceálach. Rinneadh staidéar ar ghnéithe éagsúla de na réalta móra sin inár Réaltra féin, le tuiscint níos fearr a fháil ar cad a fheictear i réaltraí eile.

A major concern remains the lack of access as of right to world-class ground-based observing facilities following the effective termination of the La Palma agreement through which Irish astronomers had access to telescopes in the Canary islands. It is the considered view of the Irish astronomical research community, and of the Board of the School, that membership of the European Southern Observatory would best address this issue. A presentation on the merits of such membership for astronomy in Ireland was given to the Office of Science and Technology and Forfas, together with colleagues representative of the main research groups in the country, towards the end of the year.

An important research area in the Astrophysics section is the study of star formation and associated phenomena. For the last two decades or so it has been known that as a by-product of the process of star formation narrow jets of fast-moving gas are ejected from the central region where the star is being formed. While most theoretical models for this assume that the jets are rotating, until recently there was no direct evidence for this. However, using data from the Hubble space telescope, evidence for rotation in the expected sense has now been found in all the proto-stellar jets examined. Even without the use of the space telescope, it is sometimes possible to probe the physics of star formation down to scales close to the Earth-Sun distance using the technique of spectro-astrometry and here also interesting results have been obtained, including indirect evidence for planet formation. All of this information will be useful input to the next generation of model calculations planned for the first CosmoGrid cluster, due for installation in 2004. In preparation various codes were adapted and tested on

Is cúis mhór inní i gcónaí an easpa rochtaine ar chearta chuig saoráidí breathnaithe domhanda ón talamh i ndiaidh deireadh a chur le comhaontú La Palma ina raibh rochtain ag réalteolaithe as Éirinn ar theileascóip sna hOileáin Chanáracha. Is é tuairim phobal taighde réalteolaíochta na hÉireann, agus tuairim Bhord na Scoile, gur fearr a thabharfadh ballraíocht i Réadlann Theas na hEorpa aghaidh ar an gceist. Tugadh léiriú ar na buntáistí a bhainfeadh lena leithéid de bhallraíocht réalteolaíochta in Éirinn don Oifig Eolaíochta agus Teicneolaíochta agus do Forfás, chomh maith le comhleacaithe a bhí ina n-ionadaithe ar na príomhghrúpaí taighde sa tír, i dtreo dheireadh na bliana.

Réimse taighde tábhachtach sa roinn Réaltfhisice is ea an staidéar ar foirmiú réalta agus an feiniméan a théann leis. Le scór blianta anois is léir, mar fhotháirge an phróisis foirmithe réalta, go n-eisteilgtear scairdeanna caola de ghás atá ag gluaiseacht go tapa ón lár-réigiún san áit a bhfoirmítear an réalta. Cé go measann go leor de na samhlacha teoiriciúla seo go mbíonn na scairdeanna ag dul timpeall, ní raibh aon fhianaise ann maidir leis sin go dtí le gairid. Ag baint úsáide áfach as sonraí ón spásteileascóp Hubble, tá fianaise ann go raibh na scairdeanna próta-réaltacha ar fad a scrúdaíodh ag dul timpeall. Fiú amháin gan aon úsáid a bhaint as an spásteileascóp, is féidir uaireanta an fhisic a bhaineann le foirmiú réalta a bhriseadh síos go dtí scálaí gar d'achar Domhan-Grian ag baint úsáide as teicníc speictrea-réalteolaíochta agus fuarthas torthaí suimiúla anseo chomh maith, lena n-áirítear fianaise indíreach le haghaidh foirmiú planéad. Beidh an t-eolas sin ar fad úsáideach don chéad ghlúin eile de ríomhaireachtaí samhlacha atá pleanáilte don chéad bhraisle CosmoGrid atá le suiteáil i 2004. Mar ullmhúchán air seo glacadh le cóid éagsúla agus



the existing facilities and theoretical models refined. The international standing of this work was recognised by the invitation to participate in the consortium supplying one of the instruments (the Mid Infra-Red Instrument, MIRI) to the James Webb space telescope, the successor instrument to the Hubble space telescope.

The Geophysics section welcomed a new Senior Professor during the year with the appointment of Alan Jones as successor to the late Brian Jacob. The Geophysics section experienced rapid growth during 2003, with staff and students coming to DIAS to work together with Prof. Jones and also other new Geophysics initiatives. Prof. Jones brought with him a new technique for studying deep geological structures by using the natural time-variation of the Earth's magnetic field. In essence this magnetotelluric method allows one to infer the electrical conductivity of the Earth's crust as a function of depth and position thereby obtaining information complementary to that yielded by the traditional seismic and potential field methods. With funding from Enterprise Ireland, the new method is already being applied to the on-going survey of the Iapetus suture region under the south west of Ireland (the ISLE project), but the major project which Prof. Jones has brought with him from Canada is an international study of the very old and deep structures underlying southern Africa (the Southern African Magnetotelluric Experiment, SAMTEX). The introduction of a new survey technique required a very substantial capital investment in new equipment, much, though not all, of which had been acquired by the end of the year as well as a programme of staff training.

tástáladh iad ar na saoráidí atá ann cheana féin agus ar shamhlacha teoiriciúla atá athchóirithe. Tugadh aitheantas don seasamh idirnáisiúnta atá ag an obair seo sa chuireadh chun páirt a ghlacadh sa chuibhreannas a bheidh ag soláthar ceann de na hionstraimí (Ionstraim Meán Infridhearg, MIRI) do spásteileascóp James Webb, an ionstraim a tháinig in áit spásteileascóp Hubble.

D'fháiltigh an Roinn Geoifisice roimh Ollamh Sinsearach nua le linn na bliana nuair a ceapadh Alan Jones a tháinig i gcomharbacht ar Brian Jacob nach maireann. Tháinig fás sciobtha ar an roinn Geoifisice le linn 2003, agus foirne agus mic léinn ag teacht chuig DIAS le hoibriú le chéile in éineacht leis an Ollamh Jones agus le tionscnaimh Geoifisice nua eile. Thug an tOllamh Jones teicníc nua leis chuig an áit le staidéar a dhéanamh ar struchtúir gheolaíocha doimhne trí úsáid a bhaint as comhathrú-ama nádúrtha de réimse maighnéadach an Domhain. Mar sin ceadáíonn an modh maighnéateallúiriach seo seoladh leictreachais screamh an Domhain a léiriú mar fheidhm doimhneachta agus suímh agus mar sin ag fáil eolais a chuireann leis an eolas a bailíodh leis na modhanna seismice agus réimsí poitéinsiúla traidisiúnta. Le maoiniú ó Fhiontraíocht Éireann, tá an modh nua curtha i bhfeidhm cheana féin sa suirbhé leanúnach ar an réigiún suture Iapetus faoi iardheisceart na hÉireann (an tionscadal ISLE), ach is staidéar idirnáisiúnta é an tionscadal ollmhór atá tugtha anseo ag an Ollamh Jones as Ceanada a dhéanann staidéar ar na struchtúir an-sean agus an-domhain atá thíos faoi dheisceart na hAfraice (Turgnamh Maighnéateallúiriach Dheisceart na hAfraice, TMTDA). Theastaigh infheistíocht shubstaintiúil chaipitil le suirbhé nua a thabhairt isteach ó thaobh trealamh nua, a raibh cuid mhaith de ach ní an t-iomlán, faighte faoi dheireadh na bliana chomh maith le clár oiliúna foirne.



Jessica Spratt at MT site.

Jessica Spratt ag láithreán MT.



Dosmax contractors' meeting December 2003.

Cruinniú comhpháirtithe Dosmax, Nollaig 2003.



School of Theoretical Physics/ Scoil na Fisice Teoiriciúla

Although this year was perhaps not as eventful as the previous year, actual research activity has increased and is likely to increase further in the future. Especially the Field Theory Group has flourished due to the arrival of Professor Nahm and the continuing organisation of an extensive visitor programme. A further expansion of the visitor programme, especially with longer-term visitors would indeed be very beneficial to the research effort of the School, encouraging further collaborations and input of new ideas. It should also be mentioned that the sanctioning of the new Fellowship scheme by the Department of Education and Science at the end of the year is a very welcome development, which should strengthen the work of the School further in the coming years.

The main developments during the year were:

Personnel matters:

- Dr. K. Takenaga ended his Scholarship at the end of March to take up a teaching position in Tokyo.
- A pre-doctoral student, J. Aguilar-Gutierrez, finished his Ph.D. with Prof. O'Connor and returned to Mexico in November.
- A new Scholar, Dr. S. Adams, was appointed on 1 December. He started collaboration with Prof. Dorlas and is also continuing work with Dr. Jean-Bernard Bru.
- An IRCSET fellow, Dr. M. Panero, was appointed for three years and started work with Prof. O'Connor.
- Dr. X. Martin's Marie-Curie Fellowship ceased in November. He started a new one-year project funded by the EU network on 'Noncommutative Geometry'.

Cé go bhféadfaí a rá nach raibh an bhliain seo chomh cinniúnach leis an mbliain roimhe sin, tháinig ardú ar ghníomhaíocht taighde agus táthar ag súil go n-ardóidh sí tuilleadh amach anseo. D'éirigh thar cionn go háirithe leis an nGrúpa Réimsetheoirice mar gheall ar chuairt an Ollaimh Nahm agus mar gheall gur leanadh leis an gclár leathan cuairteoirí a eagrú. Chuirfeadh leathnú breise ar an gclár cuairteoirí, go speisialta i gcás cuairteoirí fadtréimhseacha, go mór le hobair taighde na Scoile, ag spreagadh obair bhreise agus tuilleadh ionchuir maidir le smointe nua. Ba chóir a lua chomh maith go gcuirtear fáilte mhór roimh an scéim Comhaltachta nua a cheadaigh an Roinn Oideachais agus Eolaíochta ag deireadh na bliana, rud ba chóir a láidreodh tuilleadh obair na Scoile sna blianta amach romhainn.

Ba iad seo a leanas príomhfhorbairtí na bliana:

Ceisteanna Pearsanra:

- Chuir an Dr. K. Takenaga críoch lena Scoláireacht ag deireadh Márta le post teagaisc a ghlacadh i Tóiceo.
- Chuir mac léinn réamh-dhochtúireachta, J. Aguilar-Gutierrez, críoch lena Ph.D. leis an Ollamh O'Connor agus d'fhill ar Meicsiceo i mí na Samhna.
- Ceapadh Scoláire nua, An Dr. S. Adams, an 1 Nollaig. Thosaigh sé ag obair i gcomhar leis an Ollamh Dorlas agus tá sé ag leanúint chomh maith le hobair in éineacht leis an Dr. Jean-Bernard Bru.
- Ceapadh comhalta IRCSET, An Dr. M. Panero, ar feadh trí bhliain agus chuir sé tús le hobair in éineacht leis an Ollamh O'Connor.
- Tháinig deireadh le Comhaltacht an Dr. X. Martin's Marie-Curie i mí na Samhna. Chuir sé tús le tionscadal nua aon-bhlíana atá maoinithe ag líonra an AE ar 'Geoiméadracht Neamhchómhalartach'.

- At the beginning of October, an Embark Initiative Scholar, Ms. Ní Chiagáin started work with Prof. Nahm on Dynkin diagrams and integrable models in field theory.
- Prof. Dorlas has agreed to supervise an IRCSET fellow, Dr. D. Yarotzky, for one year from August while Prof. Pule (UCD) is on sabbatical.
- Dr. Mark Dukes has taken up a post-doctoral position in the University of Rome after his Scholarship at DIAS ended in September.

Organisational Activities and Achievements

- Three meetings were organised: an international workshop on Noncommutative Geometry, the third international workshop on Mathematical Analysis of Quantum Systems, and the DIAS Winter Symposium, the latter in collaboration with the Irish Mathematical Society.
- The School hosted and participated in the Public Debate on "Science and Society" organised by the School of Cosmic Physics. Prof. Nahm was one of the two participants in a public discussion about "SPACE – different perspectives" organised by the Hamilton Maths Institute (HMI).
- The Statutory Public Lecture was given in Trinity College by Prof. Peter Knight FRS (of Imperial College London) on "Quantum Information: An Emerging Technology".
- Prof. O'Connor secured funding of almost 190,000 euro for a research project entitled "Quantum Field Theory from Matrix Models: An Alternative to Lattice Field Theory".

- Ag tús mí Dheireadh Fómhair, thosaigh Scoláire Embark Initiative, Ms. Ní Chiagáin ag obair leis an Ollamh Nahm ar léaráidí Dynkin agus ar shamhlacha insuimeálaithe i réimsitheoiric.
- Tá sé aontaithe ag an Ollamh Dorlas maoirsiú a dhéanamh ar chomhalta IRCSET, An Dr. D. Yarotzky, ar feadh bliana ó Lúnasa fad is a bheidh an tOllamh Pulé (UCD) ar saoire bliana.
- Tá post iardhochtúireachta glactha ag an Dr. Mark Dukes in Ollscoil na Róimhe tar éis deireadh a theacht lena Scoláireacht ag DIAS i Meán Fómhair.

Gníomhaíochtaí Eagrúcháin agus An Méid a Baineadh Amach

- Eagraíodh trí chruinniú: ceardlann idirnáisiúnta ar Gheoiméadracht Neamhchómhalartach, an tríú ceardlann idirnáisiúnta ar Anailís Mhatamaiticiúil ar Chórais Chandamacha, agus Siompóisiam Geimhridh DIAS, agus é sin i gcomhar le Cumann Matamaiticiúil na hÉireann.
- Bhí an Scoil ina hóstach ar Dhíospóireacht Phoiblí a d'eagraigh Scoil na Fisice Cosmaí ar 'Eolaíocht agus an Sochaí' agus ghlac sí páirt ann. Bhí an tOllamh Nahm ar dhuine den bheirt a bhí páirteach i bplé poiblí faoi "SPACE – different perspectives" a d'eagraigh an Institiúid Matamaitice Hamilton.
- Thug an tOllamh Peter Knight FRS as an Imperial College Londain Léacht Phoiblí Reachtuil i gColáiste na Tríonóide ar "Quantum Information: An Emerging Technology".
- Fuair an tOllamh O'Connor maoiniú de bheagnach €190,000 do thionscadal taighde dar teideal "Quantum Field Theory from Matrix Models: An Alternative to Lattice Field Theory".

Research Activities

Statistical Mechanics and Disordered Systems

The study of (quasi) one-dimensional quantum systems with disorder in collaboration with Prof. Joe Pule (UCD) has been continued. A new project has been initiated, however, concerning the conductivity of carbon nanotubes. Carbon nanotubes are micrometer long molecules consisting of carbon atoms in a chicken-wire configuration rolled into a tube with diameter in the order of nanometers. (See the figure.) It is known that, depending on the relative angle over which the tube is rolled, it can be insulating or semiconducting. The latter case occurs in particular for the so-called armchair configuration and has great potential for replacing silicon in nanoscale microelectronics. There is an apparent paradox however in understanding the semiconducting property, namely, it is known that one-dimensional systems with disorder exhibit Anderson localisation and should therefore be insulating, no matter how small the disorder. A resolution of this conundrum was proposed by Todorov and White in 1998 and has since been experimentally verified in 2002. They argue that the good conduction of the nanotube is due to two effects: the finite length of the tube and the fact that the conduction takes place in a single channel in which the disorder is reduced due to averaging over the circumference of the tube. They only supply a rough calculation to support their argument however, and we propose to demonstrate this interesting effect more rigorously, using precise bounds on the largest Lyapunov exponent.

Gníomhaíochtaí Taighde

Meicnicí Staitistiúla agus Córais Neamhordúla

Táthar ag leanúint ar aghaidh leis an staidéar ar chórais chandamacha (cuasa) aontoiseacha le neamhordúil i gcomhar leis an Ollamh Joe Pulé (UCD). Tá tús curtha le tionscnamh nua maidir le seoltacht nanafeadáin carbón. Is éard is nanafeadáin carbón ann ná móilíní fada micriméadair ina bhfuil adaimh carbón i gcumraíocht sreangáin agus iad rollaithe i bhfeadán leis an lárline i bhfoirm nanafeadáin. (féach an léaráid). Is fíor gur féidir leis, ag brath ar an uillinn choibhneasta ar a bhfuil an feadán rollta, a bheith inslithe nó leathsheolta. Tarlaíonn sé sin go mór mór i gcás cumraíochta cathaoireach mar a thugtar air agus d'fhéadfadh sé a bheith in ann a theacht in áit sileacain i micrileictreonaic nana-scála. Tá paradacsa soiléir ann áfach ó thaobh tuiscint a fháil ar airí leathsheolta, mar gheall go príomhda gur eol go léiríonn córais aontoiseacha le neamhord logánú Anderson agus mar sin ba chóir dó a bheith inslithe, is cuma cad é chomh beag an neamhord. Mhol Todorov agus White taifeach ar an gcruacheist seo i 1998 agus fóraíodh ar bhonn turgnaimh é i 2002. Deir siad go dtarlaíonn seoladh maith an nanafeadáin mar gheall ar dhá éifeacht: fad críochna an fheadáin agus de bharr go dtarlaíonn an seoladh i gcainéal singil ina laghdaítear an neamhord mar gheall go dtéann sé os cionn imlíne an fheadáin. Ní sholáthraíonn siad ach ríomh garbh le tacaíocht a thabhairt dá n-argóint áfach agus tá sé mar aidhm againn an éifeacht shuimiúil seo a léiriú níos géire, ag baint úsáide as cuimsí cruinne ar an easpóntant Lyapunov is mó.

In collaboration with Prof. Robert O'Connell, a long-time visitor of the School, a strikingly simple model for the quantum-Zeno effect has been studied. This model concerns a Brownian particle interacting with a linear passive heat bath, which causes dissipation a modified spreading of the wave packet. We show that frequent measurements cause a decrease in the rate of spreading if the interaction is small, but an increase in the rate of spreading if the interaction is relatively large. The former is known as the quantum Zeno-effect. The latter has only recently (1998) been predicted and is now known as the anti-Zeno effect.

In a collaboration with Dr. Nilanjana Datta (Cambridge) the transition probabilities of two random walks on a complete graph were investigated, and the probability distribution of the total length of time that the walkers are at the same site were computed. This problem arose in the study of a random-walk representation of a model of a Bose gas on a lattice studied previously with other methods. (A special case of this model was solved using this representation, but so far not the general case.) This representation naturally gives rise to the boundary condition that the walks should return to their original positions after a fixed period of time. It turned out that the problem of two random walkers with this boundary condition has an interesting application as a model for infection by a single infected agent in a fixed period of time. Provided there is no cross-infection, this also applies to infection of more than one subject by a single infected agent.

Tá staidéir déanta, i gcomhar leis an Ollamh Robert O'Connell, cuairteoir de chuid na Scoile le fada an lá, ar shamhail atá go sonrach simplí don éifeacht candamach-Zeno. Baineann an tsamhail sin le Brúcháithnín ag idirghníomhú le dabhach teasa éighníomhach lineair agus tarlaíonn ídiú mar gheall air, scaipeadh modhnaithe ar an tonnphaicéad. Léirimid go dtagann laghdú ar an ráta scaipthe mar gheall ar thomhais rialta má bhíonn an t-idirghníomhú beag, ach ardú sa ráta scaipthe má bhíonn an t-idirghníomhú réasúnta mór. Tugtar éifeacht-Zeno candamach ar an gcéad cheann. Níl an ceann eile ach tuartha le gairid anuas (1998) agus tugtar éifeacht frith-Zeno air anois.

Rinneadh iniúchadh i gcomhar leis an Dr. Nilanjana Datta (Cambridge) ar dhóchúlachtaí trasdul a bhain le dhá shiúlóid randamacha ar ghraif iomlán, agus ríomhadh an dáileadh dóchúlachta den am iomlán a bhfuil an bheirt shiúlóidithe ag an suíomh céanna. Tháinig an fhadhb sin chun cinn i staidéar ar léiriú siúlóide-randamach de shamhail gás Bose ar laitís a ndearnadh staidéar air roimhe sin le modhanna eile. (Réitíodh cás speisialta den tsamhail seo ag baint úsáide as an léiriú sin, ach ní dhearnadh sin go dtí seo leis an gcás ginearálta). Ar ndóigh tá coinníoll teorainneach ag baint leis an léiriú sin sa mhéid go dtéann na siúlóidithe ar ais go dtí a n-áit féin tar éis tréimhse ama socraithe. Tarlaíonn sé go bhfuil feidhm ag an bhfadhb seo maidir le beirt shiúlóidithe randamacha a bhfuil an coinníoll teorainneach seo orthu mar shamhail ionfhabhtaithe ó ghníomhaire amháin ionfhabhtaithe i dtréimhse ama socraithe. Ag glacadh leis nach dtarlaíonn aon tras-ionfhabhtú, beidh feidhm leis sin i gcás níos mó ná ábhar amháin ionfhabhtaithe ag gníomhaire ionfhabhtaithe aonair.

Field Theory and Particle Physics

In this group, research was done on a whole array of different subjects. One of the main strands of research is on integrable perturbations of conformal field theories in two dimensions. A remarkably rich class of two-dimensional quantum field theories can be solved exactly by means of the so-called Bethe Ansatz. In particular the energy spectrum is given by an exact system of transcendental equations. These equations are in general very difficult to analyse however. It was found that the exact spectrum could in fact be extracted in the conformally invariant limit in terms of the scattering matrix and certain auxiliary data. The necessity of these auxiliary data had not been realised before because the equations are usually treated in an approximation where they are negligible. The new result should lead to further developments in the understanding of massive integrable quantum field theories.

In collaboration with Prof. Tchrakian (NUI, Maynooth) progress was made in a fundamental problem in string theory. String theory predicts that the fundamental structure of the universe should be described in terms of a space with ten dimensions. The ordinary three-dimensional space is then supposed to be a 'brane', i.e. a lower-dimensional slice of this 10-dimensional space. This begs the question how particles of matter, which are fermions, can remain bound to the brane. In certain cases this can be explained in terms of a mathematical quantity called an index, which is invariant under smooth deformations of space. In certain symmetric cases it was possible to calculate the index and show that it is not zero.

A large effort is going into the study of fuzzy spaces. These are matrix algebras analogous to the algebra of functions on a continuous manifold. The motivation for the study of fuzzy field theory is diverse, but one principal goal is to develop an alternative method for dealing with infinities in quantum field theory and

Réimsetheoiric agus Fisic Cháithníní

Sa ghrúpa seo rinneadh taighde ar bhailiúchán iomlán d'ábhair dhifriúla. Ceann de na príomh réimsí taighde is ea corraíleacha suimeála de réimsetheoiricí comhfhoirmiúla in dhá thoiseach. Is féidir aicme shaibhir de réimsetheoiricí candamacha dhá-thoiseacha a réiteach díreach tríd an Bethe Ansatz mar a thugtar air, rud atá neamhghnáth ann féin. Tugtar an speictream fuinnimh trí chóras cruinn cothromóidí tarchéimniúla. Bíonn sé an-deacair tríd is tríd anailís a dhéanamh ar na cothromóidí sin áfach. Fuarthas amach gur féidir an speictream díreach a eastóscadh sa teorainn athraitheach comhfhoirmiúil i dtéarmaí an mhaitrís scaipthe agus roinnt sonraí cúnta. Ní raibh aon tuiscint ar riachtanas na sonraí cúnta roimhe sin mar caitear go hiondúil le cothromóidí i neastachán áit a mbíonn siad diomaibhseach. Ba chóir go dtiocfadh breis forbairtí ón toradh nua ó thaobh tuiscint a fháil ar ollréimsetheoiricí candamacha suimeála.

I gcomhar leis an Ollamh Tchrakian (NUI, Maigh Nuad) rinneadh dul chun cinn ar fhadhb bhunúsach i dteoiric shreanga. Tugann teoiric shreanga réamhaisnéis gur chóir cur síos ar struchtúr bunúsach an domhain i dtéarmaí spáis le deich dthoiseach. Breathnaítear ansin ar an gnáth spás trí-thoise mar 'braein', i.e. slis le toise níos ísle den spás 10 dthoiseach seo. Cuirtear an cheist anseo conas is féidir le cáithníní damhna, ar fearmóin iad, fanacht i bhfostú den bhraein. I gcásanna áirithe mínítear é seo i dtéarmaí cainníochta matamaitice ar a dtugtar innéacs, atá athraitheach faoi díchumadh boga spáis. I gcásanna siméadracha áirithe bhíodhas in ann an t-innéacs a ríomh agus taispeáint nach neamhní atá i gceist.

Tá obair mhór ag dul isteach sa staidéar ar spásanna doiléire. Is éard atá iontu seo ailgéabar maitrise atá analógach d'ailgéabar feidhmeanna ar iolrachán leanúnach. Tá an inspreagadh maidir le staidéar ar réimsetheoiric doiléir éagsúil, ach príomhspríoc amháin is ea modh roghnach a fhorbairt chun déileáil le héigríochta i réimstheoiric candamach agus as sin rogha a sholáthar do neastacháin láitise i gcás ríomhaireachtaí

hence provide an alternative to lattice approximations for non-perturbative calculations in field theory and particle physics. Moreover, fuzzy spaces (and more general non-commutative spaces) also appear to be of fundamental importance in string theory. So far, only rather simple models have been studied.

Another project is an attempt at quantising a random walk process. A particularly tricky aspect of this quantisation is the absence of unitarity. The work has led to an improved understanding of this quantum walk, showing that unitarity can be recovered in the limit of large time evolution.



Theoretical Physics workshop (September 2003).

Ceardlann Fisice Teoiriciúla (Meán Fómhair 2003).

neamh-chorraíleacha i réimsetheoiric agus i bhfisic cháithníní. Chomh maith leis sin, is léir go bhfuil tábhacht mhór ag baint le spásanna doiléire (agus spásanna neamh-chómhálartacha níos ginearálta) i dteoiric sreanga. Go dtí seo, níl aon staidéar déanta ach ar shamhlacha atá sách éasca.

Tionscadal eile próiseas siúlóide randamach a cháinníochtú. Gné amháin chasta den chainníocht sin is ea nach bhfuil úinitéireach ann. Tá tuiscint níos fearr ar an siúl candamach seo mar gheall ar an obair, ag léiriú gur féidir úinitéireach a athghnóthú i dteorainn éabhlóid mhór-ama.



Administration and Finance/ Riarachán agus Airgeadas

The administration staff of the Institute provide clerical, financial and other support services to the Council of the Institute, the three schools and their associated committees.

Extensive consultations took place during the summer months on the development of a modernisation action plan under the plans of the new national agreement, *Sustaining Progress*. The Partnership Forum was central to this process. The measures agreed, provide for the introduction of a system of performance management system within the Institute, wider access to family and friends, further flexibility from staff, improved internal communications and greater accountability. Significant progress was made on progressing elements of the action plan during the latter part of the year.

The attached financial statements report a deficit of €62,569 for the year. This compares with a surplus of €58,282 in the year to 31st December 2002. Total income for the Institute increased from €6,123,190 in 2002 to €6,618,741 for 2003. This represents an improvement of €495,551 or 8.09 % and the main increases arose in Oireachtas income and projects. The respective increases were €319,790 and €140,928.

The Institute's total costs, after adjusting for the transfer to the capital reserve, also increased from €6,064,908 in 2002 to €6,681,310 in 2003 i.e. an increase of €616,402 or 10.16%.

The significant movements in costs took place in payroll, projects and publications where the respective increases of €363,667, €133,457 and €38,047 arose.

During the year the Institute continued its investment program in its facilities and premises maintenance. Investment in facilities included the upgrade of the mobile seismic network and the purchase of magnetotelluric recording equipment in the Geophysics section.

Soláthraíonn foireann riaracháin na hInstitiúide seirbhísí cléireachais, airgeadais agus seirbhísí tacaíochta eile chuig Comhairle na hInstitiúide, na trí scoil agus a gcoistí bainteacha.

Tharla comhairliúcháin leathana le linn mhíonna an tsamhraidh maidir le forbairt plean gnímh nuachóirithe faoi na pleananna don chomhaontú náisiúnta nua, *Ag Coinneáil an Dul Chun Cinn*. Bhí an Fóram Comhpháirtíochta lárnach don phróiseas seo. Forálann na bearta a aontaíodh do chur i láthair córas bainistíochta feidhmíochta laistigh den Institiúid, rochtain níos leithne do theaghlaigh agus do chairde, níos mó solúbthachta ón bhfoireann, cumarsáidí inmheánacha feabhsaithe agus cuntasacht níos fearr. Rinneadh dul chun cinn suntasach maidir le gnéithe den phlean gnímh a chur chun cinn le linn an chuid deiridh den bhliain.

Tuairiscíonn na ráitis airgeadais atá faoi iamh easnamh de €62,569 don bhliain. Sin i gcomparáid le barrachas de €58,282 sa bhliain go dtí 31ú Nollaig 2002. Tháinig ardú ar ioncam iomlán na hInstitiúide ó €6,123,190 i 2002 go dtí €6,618,741 do 2003. Léiríonn sé sin feabhas de €495,551 nó 8.09 % agus tharla na príomharduithe in ioncam Oireachtais agus tionscadail. Ba iad na harduithe faoi seach ná €319,790 agus €140,928.

Tháinig ardú ar chostais iomlána na hInstitiúide freisin, tar éis coigeartú don aistriú chuig an gcúlchiste caipitil ó €6,064,908 i 2002 go dtí €6,681,310 i 2003 i.e. ardú de €616,402 nó 10.16%.

Tharla na gluaiseachtaí suntasacha i gcostais i bpárolla, tionscadail, agus foilseacháin áit ar tharla na harduithe faoi seach de €363,667, €133,457 agus €38,047 chun cinn.

Le linn na bliana lean an Institiúid lena clár infheistíochta maidir le cothabháil ar a cuid saoráidí agus áitreabh. Bhí uasghrádú den líonra seismeach soghluaiste san áireamh in infheistíocht i saoráidí agus ceannaíodh trealamh taifeadta maighnéadteallúrach sa rannóg Geoifisic.

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Members Appointed by the Governing Boards of Constituent Schools

M. Atiyah, G. Wrixon,
B. Ó Madagáin, T. C. Dorlas,
L. Drury, F. Kelly

Governing Board of the School of Celtic Studies

Chairman

B. Ó Madagáin

Senior Professors

M. Ó Murchú, F. Kelly,
L. Breatnach (from 1 June)

Appointed Members

M. Ní Neachtain, D. Ó Baoill,
M. Herbert (from 23 September)
R. Ó hUiginn (from 23 September)

Governing Board of the School of Theoretical Physics

Chairman

M. Atiyah

Senior Professors

T.C. Dorlas, D.J. O' Connor,
W. Nahm

Appointed Members

A. C. Breslin, J. V. Pulé,
J.C.I. Dooge.

Governing Board of the School of Cosmic Physics

Chairman

G. Wrixon

Senior Professors

L.O'C. Drury, E.J.A. Meurs,
A. Jones (half-time from 1 May)

Appointed Members

A. Khan, M. Bailey, S. McMurry,
O. Glaser.

Administrative Staff of the Institute 2002

Registrar:

Cecil Keaveney

Finance Officer:

Grace Forkin (from 13 October)

Senior Administrative Officer:

Mary Burke

Assistant Finance Officer:

Ronan Byrne

Clerks:

Tony Broderick, Noreen Granahan,
Margaret Loughman,
Helena Moynihan

Temporary Administrative Staff:

Edmond Barrett,
Naomi Baker
(24 July – 28 November)
Declan Edwards
(17 February – 31 July)
Ruth Graham

Support Staff:

Nuala Carney, Geraldine Casey,
Des Cuffe, Esther Healy,
Roger Jones, Barbara Judge, Patricia
McDonald, James McFeeley, Michael
Quinn

Staff and Scholars of the School of Celtic Studies 2003

Senior Professors

F. Kelly (Director),
M. Ó Murchú
L. Breatnach (from 1 June)

Professors

M. McKenna
P. Ó Macháin

Assistant Professors

A. Nic Dhonnchadha
S. Ní Laoire (Academic Librarian)
R. Ó Maolalaigh (Bibliographer)
M. O Riordan (Publications Officer)

Research Assistant

B. Ó Curnáin

Assistant Librarians

F. Brady (7 April – 24 October)
A. Clinch (from 10 November)
G. Toland (part-time)

School Administrator

E. Nic Dhonncha

Technical Staff

ISOS
C. Dunn
A. O'Brien

IT support

A. McCarthy (part-time)
G. McCullagh (part-time)

Scholars

C. Downham (England)
N. Evans (England)
(from 1 October)
A. Gleason (USA)
(until 30 September)

A. Eichorn Mulligan (USA)
(5 July – 15 August)
B. Ní Chonaill (Ireland)
(1 July – 20 September)
J. Ní Ghrádaigh (Ireland)
(from 1 October)
M. Griffin-Wilson (USA)
(from 1 October)

Support Staff

B. Kelly
(29 September – 12 December)

Professor Emeritus

P. MacCana

Staff School of Theoretical Physics 2003

Senior Professors

T.C. Dorlas (Director)
D. O'Connor
W. Nahm

Librarian

A. Goldsmith

Secretary

M. Matthews

Systems Administrator

R. Cunniffe

Post-Doctoral Scholars

S. Adams (Germany)
(from 1 December)

J. Bru (France)
M. Dukes (Ireland)
(until 31 August)
K. Takenaga (Japan)
(until 31 March)
T. Tsukioka (from 1 October)
B. Ydri (Algeria)

Pre-Doctoral Scholars

R. Delgadillo Blando (Mexico)
F. Garcia Flores (Mexico)
J. Medina Garcia (Mexico)
J. Aguilar Gutierrez (Mexico)
(until 15 November)
I. Huet Hernandez (Mexico)
P. Castro Villareal (Mexico)

Professor Emeritus

J.T. Lewis

EU Marie Curie Fellowship

X. Martin (France)
(until 18 November)

Project Staff

X. Martin (from 19 November)
"Quantum Spaces –
Noncommutative Geometry"

M. Panero (from 20 November)
"Quantum Field Theory from Matrix
Models:
An Alternative to Lattice
Field Theory"

**Embark Initiative Postgraduate
Research Scholar**

S. Ní Chiagáin (*from 1 October*)

Support Staff

A. Matthews (*9 June – 29 August*)

**Staff School of
Cosmic Physics 2003**

Senior Professors

L. Drury (Director)

E. Meurs

A. Jones (*half-time from 1 May*)

Professors

D. O'Sullivan

T. Ray

Assistant Professors

B. O'Reilly

P. Readman

Experimental Officers

T. Blake

B. Jordan

J. Walsh (*until 30 May*)

S. Dudzinski (*from 7 July*)

Senior Technical Assistants

C. Horan

M. Smyth

G. Wallace

Technical Assistants

W. Dumbleton

E. Flood

A. Grace

(*career break from 1 October*)

S. Ledwidge (*career break*)

H. Sullivan

L. Quigley

J. Spratt (*from 25 September*)

Clerical Staff

A. Byrne

M. Callanan

E. Clifton

P. Daly

Scholars

A. Chabert (France)

(*from 1 October*)

D. Coffey (Ireland)

C. Combet (France)

J. Cuniffe (Ireland) (*until 31 July*)

V.C. Do (Vietnam)

J. Donnelly (Ireland)

Á. Gras Velázquez (Spain)

B. O'Halloran (Ireland)

C. Melody (Ireland)

F. McGroarty (Ireland)

G. Murphy (Ireland)

M. Walpole (Ireland)

P. Ward (Ireland)

E. Whelan (Ireland)

D. Zhou (China)

Project Staff

M. Redman (*from 1 September*)

*"Hot cores and massive star
formation"*

C. Ravaut (*from 1 October*)

"HADES"

CosmoGrid

Project Scientist

T. Lery

Project Administrator

A. Shaw

Post-Doctoral Researchers

Conor Sweeney (*from 1 April*)

Dirk Froebrich (*from 1 July*)

Shiyu Wang (*from 21 July*)

Professor Emeritus

T. Murphy[†]

Vacation Students

Astronomy Section

M. Carmen Rebello

(*25 May – 25 June*)

D. O'Hogáin (*2 June – 29 August*)

P. Casey (*16 June – 29 August*)

P. Collins (*16 June – 29 August*)

[†]Died 25 January 2003

Foireann na hInstitiúide

Comhairle na hInstitiúide

Cathaoirleach

D. Ní Dhomhghaile

Baill Ex-Officio

Dr. A. Ó Coscair, Uachtarán, Coláiste na hOllscoile, BÁC
(go dtí 31 Nollaig)

Dr. M. Ó Riain, Uachtarán, Acadamh Ríoga na hÉireann

Dr. Seán Ó hÉigeartaigh, Propast, Coláiste na Tríonóide.

Baill Ceaptha ag Boird Rialaithe na gComhscóileanna

M. Atiyah, G. Wrixon,
B. Ó Madagáin, T. C. Dorlas,
L. Mac an Druaidh, F. Ó Ceallaigh.

Bord Rialaithe Scoil an Léinn Cheiltigh

Cathaoirleach

B. Ó Madagáin

Ollúna Sinsearach

M. Ó Murchú, F. Ó Ceallaigh,
L. Breatnach (ó 1 Meitheamh).

Baill Cheaptha

M. Ní Neachtain, D. Ó Baoill,
M. Hoirbeard (ó 23 Meán Fómhair)
R. Ó hUiginn (ó 23 Meán Fómhair).

Bord Rialaithe Scoil na Fisice Teoiriciúla

Cathaoirleach

M. Atiyah

Ollúna Sinsearach

T.C. Dorlas, D.J. Ó Conchúir,
W. Nahm.

Baill Cheaptha

A.C. Uí Bhreasláin, J. V. Pulé,
J.C. I. Ó Dubhthaigh.

Bord Rialaithe Scoil na Fisice Cosmaí

Cathaoirleach

G. Wrixon

Ollúna Sinsearach

L. Mac an Druaidh,
E. J. A. Meurs, A. Mac Seóin
(ar leathama ó 1 Bealtaine).

Baill Cheaptha

A. Khan, M. Báille, S. Mhic Muirí, O. Glaser.

Foireann Riaracháin na hInstitiúide 2003

Cláraitheoir

Cecil Ó Géibheannaigh

Oifigeach Airgeadais

Gráinne Ní Ghabhláin
(ó 13 Deireadh Fómhair)

Oifigeach Sinsearach Riaracháin

Máire de Búrca

Oifigeach Airgeadais Cúnta

Rónán Ó Broin

Cléirigh

Antóin Ó Bruadair
Nóirín Uí Reannacháin
Mairéad Ní Lachtmáin
Eibhlín Ní Mhuineacháin

Foireann Sealadach Riaracháin

Éamonn Bairéid
Naomi Bácaeir
(24 Iúil – 28 Samhain)
Déaglán Mac Éadbhaird
(17 Feabhra – 31 Iúil)
Ruth Ní Ghréacháin

Foireann Tacaíochta

Nuala Uí Chearnaigh,
Gearóidín Uí Chathasaigh,
Deasún Mac Dhuibh
Eistir Uí Éalaithe,
Ruaidhrí Mac Seóin,
Bairbre Mhic an Bhreithiún,
Pádraigín Mhic Domhnaill,
Séamus Mac Fithcheallaigh,
Mícheál Ó Cuinn

Foireann – Scoil an Léinn Cheiltigh 2003

Ollúna Sinsearach

F. Ó Ceallaigh (Stiúrthóir)
M. Ó Murchú
L. Breatnach (ó 1 Meitheamh)

Ollúna

M. Mac Cionaoith
P. Ó Macháin

Ollúna Cúnta

A. Níc Dhonnchadha
S. Ní Laoire (Leabharlannaí Acadúil)
R. Ó Maolalaigh (Leabhareolai)
M. Ní Riordáin (Oifigeach
Foilseacháin)

Cúntóir Taighde

B. Ó Curnáin

Leabharlannaithe Cúnta

Proinsias Ó Brádaigh
(7/4/03 – 24/10/03)
A. Clinse (ó 10 Samhain)
G. Ní Thuathaláin (páirtaimseartha)

Riarthóir Scoile

E. Níc Dhonncha

Foireann Teicniúil

MPR (Meamram Páipéar Ríomhaire)
C. Ó Duinn
A. M. Ní Bhriain

Riarthóirí Ríomhaireachta

A. Mac Cárthaigh
G. Mac Cú Uladh

Scoláirí

C. Downham (Sasana)
N. Ó hÉimhín (Sasana)
(ó 1 Deireadh Fómhair)
A. Ní Ghliasáin (Na Stáit Aontaithe)
(go dtí 30 Meán Fómhair)

A. Eichorn Mulligan
(Na Stáit Aontaithe)
(5 Iúil – 15 Lúnasa)
B. Ní Chonaill (Éire)
(1 Iúil – 20 Meán Fómhair)
J. Ní Ghrádaigh (Éire)
(ó 1 Deireadh Fómhair)
M. Ní Ghríofa (Na Stáit Aontaithe)
(ó 1 Deireadh Fómhair)

Foireann Tacaíochta

Brian Ó Ceallaigh
(29 Meán Fómhair –
12 Mí na Nollag)

Ollamh Emeritus

Proinsias Mac Cana

Foireann – Scoil na Fisice Teoiriciúla 2003

Ollúna Sinsearach

T.C. Dorlas (Stiúrthóir)
D. Ó Conchúir
W. Nahm

Leabharlannaí

A. Goldsmith

Rúnaí

M. Uí Mhaitiú

Riarthóirí Ríomhaireachta

R. Mac Conduibh

Scoláirí Iar-Dhochtúireachta

S. Mac Adaim (An Ghearmáin)
(ó 1 Mí na Nollag)

J. Bru (An Fhrainc)
Marc Diúic (Éire) (go dtí 31 Lúnasa)
K. Takenaga (An tSeapáin)
(go dtí 31 Márta)
T. Tsukioka (An tSeapáin)
(ó 1 Deireadh Fómhair)
B. Ydri (An Ailgéir)

Scoláirí Réamh-Dhochtúireachta

R. Delgadillo Blando (Meicsiceo)
F. Garcia Flores (Meicsiceo)
J. Medina Garcia (Meicsiceo)
J. Aguilar Gutierrez (Meicsiceo)
(go dtí 15 Samhain)
I. Huet Hernandez (Meicsiceo)
P. Castro Villareal (Meicsiceo)

Ollamh Emeritus

J.T. Lobhaois

Comhaltacht Marie Curie

X. Martin (An Fhrainc)
(go dtí 18 Samhain)

Foireann Tionscnaimh

X. Martin (ó 19 Samhain)
M. Panero (ó 20 Samhain)

Scoláire Taighde Iarchéime

S. Ní Chiagáin
(ó 1 Deireadh Fómhair)

Foireann Tacaíochta

Aoife Ní Mhaitiú
(9 Meitheamh – 29 Lúnasa)

Foireann – Scoil na Físice Cosmaí 2003

Ollúna Sinsearach

L. Mac an Druaidh (Stiúrthóir)
E. Meurs
A. Mac Seóin
(ar leathama ó 1 Bealtaine)

Ollúna

D. Ó Súilleabháin
T. Ó Riabhaigh

Ollúna Cúnta

B. Ó Raghallaigh
P. Readman

Oifigigh Turgnaimh

T. de Bláca
B. Mac Siúrtáin
Seán Breathnach (go dtí 30/5/03)
S. Dudzinski (ó 7 Iúil)

Cúntóirí Teicniúla Sinsearach

Clár Ní Odhráin
M. Mac Gabhann
G. de Bhailís

Cúntóirí Teicniúla

W. Dumpleton
E. Uí Mhaoltuile
A. de Grás
(sos gairme ó 1 Deireadh Fómhair)
S. de Léadús (sos gairme)
Ealáir Uí Shúileabháin
L. Ní Choigligh
J. Sprat (ó 25 Meán Fómhair)

Foireann Cléireachais

A. Ní Bhroin
M. Ní Challanáin
E. Clifton
P. Uí Dhálaigh

Scoláirí

A. Chabert (An Fhrainc)
D. Ní Chofaigh (Éire)
C. Combet (An Fhrainc)
Seán Mac Conduibh (Éire)
(go dtí 31 Iúil)
V. C. Do (Vítneam)
J. Ó Donnghaile (Éire)
Á. Gras Velázquez (An Spáinn)
B. Ó hAllúráin (Éire)
C. Ó Maoiléidigh (Éire)
F. Nic Robhartaigh (Éire)
G. Ó Murchú (Éire)
M. Walpole (Éire)
P. Mac an Bhaird (Éire)
E. Ní Fhaoláin (Éire)
D. Zhou (An tSín)

Foireann Tionscnaimh

M. Redman (ó 1 Meán Fómhair)
C. Ravaut (ó 1 Deireadh Fómhair)

CosmoGrid

Eolaí Tionscnaimh
T. Lery
Riarthóir Tionscnaimh
Áine Ní Sheách

Taighdeoirí Iar-Dhochúireachta

Conchúr Mac Suibhne
(ó 1 Aibreán)
Dirk Froebrich (ó 1 Iúil)
Shiyu Wang (ó 21 Iúil)

Ollamh Emeritus

T. Ó Murchú[†]

Scoláirí Saoire

Rannóg Réalteolaíochta
M. Carmen Rebello
(25 Bealtaine – 25 Meith.)
D. Ó hÓgáin
(2 Meitheamh – 29 Lúnasa)
P. Ó Cathasaigh
(16 Meitheamh – 29 Lúnasa)
P. Ó Coileáin
(16 Meitheamh – 29 Lúnasa)

[†]D'éag 25 Eanáir 2003



Financial Statements

for year ended 31 December 2003

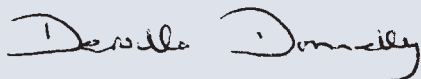
Statement of Responsibilities of the Council	33
Statement on the System of Internal Financial Control	34
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Income and Expenditure Account	37
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Statement of Responsibilities of the Council

The Council of the Dublin Institute for Advanced Studies is required under section 28(2) of the Institute for Advanced Studies Act 1940 to prepare financial statements in such form as shall be approved by the Minister for Education and Science with the concurrence of the Minister for Finance. In preparing those financial statements the Council is required to:

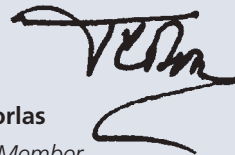
- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Institute will continue in operation; and
- disclose and explain any material departures from applicable accounting standards.

The Council is responsible for keeping proper books of account which disclose with reasonable accuracy at any time the financial position of the Institute and which enable it to ensure that the financial statements comply with Section 28(2) of the Act. The Council is responsible for safeguarding the assets of the Institute and for taking reasonable steps for the prevention and detection of fraud and other irregularities. The Council is also responsible for ensuring compliance with The Prompt Payment of Accounts Act, 1997 as detailed in the notes to the accounts.



Dervilla Donnelly

Chairman – Council of the Institute



Tony Dorlas

Council Member

Statement on the System of Internal Financial Control

Responsibility for system of Internal Financial Control

On behalf of the Council of the Institute I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

The system can only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or would be detected in a timely period.

Key Control Procedures

The Council has taken steps to ensure an appropriate control environment by

- clearly defining management responsibilities;
- establishing formal procedures for reporting significant control failures and ensuring appropriate corrective action.

The Council has established processes to identify and evaluate business risks by

- identifying the nature, extent and financial implication of risks facing the Institute including the extent and categories which it regards as acceptable;
- assessing the likelihood of identified risks occurring;
- assessing the Institute's ability to manage and mitigate the risks that do occur;
- assessing the costs of operating particular controls relative to the benefit obtained.

The system of internal financial control is based on a framework of regular management information, administrative procedures including segregation of duties, and a system of delegation and accountability. In particular it includes:

- comprehensive budgeting system with an annual budget which is reviewed and agreed by the Council of the Institute;
- regular reviews by the Council of periodic and annual financial reports which indicate financial performance against forecasts;
- setting targets to measure financial and other performance;
- clearly defined capital investment control guidelines;
- formal project management disciplines.

Statement on the System of Internal Financial Control (continued)

In December 2001 Council of the Institute established an Audit Committee consisting of three non executive members and that committee has started the process of reviewing internal control matters and issues raised by the Comptroller and Auditor General. During the year the Institute appointed Internal Auditors to carry out the internal audit function which complements the analysis of risk carried out by the Administrative and Finance Committee.

The Council's monitoring and review of the effectiveness of the system of internal financial control has in the past been based on the work of the Registrar and other officers within the Institute who have responsibility for the development and maintenance of an appropriate financial control framework. Council will not only continue to seek the input of the Registrar and other senior staff on this matter, but will also rely upon reports and comments made by the Audit Committee and the Comptroller and Auditor General in his management letter or other reports.

Annual Review of Controls

I confirm that in the year ended 31st December 2003 the Board conducted a review of the effectiveness of the system of internal financial controls of the Institute.

Signed on behalf of the Council of the Institute



Dervilla Donnelly

Chairman – Council of the Institute

22 April 2004

Accounting Policies

General

The Institute was established under the Institute for Advanced Studies Act, 1940.

Its functions include the provision of facilities for the furtherance of advanced studies and the conduct of research in specialised branches of knowledge.

It comprises three Schools – Celtic Studies, Theoretical Physics and Cosmic Physics.

Accounting Policies

1 Basis of Accounting

The financial statements have been prepared on an accruals basis under the historical cost convention and in accordance with generally accepted accounting practice. Financial Reporting Standards recommended by the recognised accounting bodies are adopted as they become applicable.

2 Oireachtas Grants

Income is shown on a cash receivable basis.

3 Fixed Assets

Fixed Assets comprise the furniture, equipment, computers and motor vehicles of the Institute and are shown at cost less accumulated depreciation. The rates of depreciation, calculated on a straight line basis, are as follows:

Furniture and Equipment	10%
Computers	25%
Motor Vehicles	25%

Premises occupied by the Institute are leased from the Office of Public Works.

4 Capital Reserve

The capital reserve represents the unamortised value of income used for the purchase of Fixed Assets.

5 Library

Expenditure on library books and materials is written off in the year in which it is incurred.

6 Publications

Expenditure on publications is written off in the year in which it is incurred.

7 Superannuation

All superannuation benefits to or in respect of employees of the Institute under its superannuation schemes are met out of grants in the year of payment. Contributions in respect of these schemes are included in other income.

No provision is made in these financial statements for future benefits.

8 Projects

Income and expenditure on projects is reflected in the financial statements in the year to which they relate. A surplus or deficit on a project is reflected in the financial statements when realised.

Income and Expenditure Account

	Notes	2003 €	2002 €
Income			
Oireachtas Grant		5,655,790	5,336,000
Sales of Publications		58,906	42,244
Projects	2	770,654	629,726
Other	3	133,391	115,220
		6,618,741	6,123,190
Transfer (to)/from Capital Reserve	5	(87,042)	(179,205)
		6,531,699	5,943,985
Expenditure	1		
School of Celtic Studies		1,474,439	1,271,918
School of Theoretical Physics		988,254	836,182
School of Cosmic Physics		2,559,941	2,443,893
Administration		1,571,634	1,333,710
		6,594,268	5,885,703
Surplus/(Deficit) for year		(62,569)	58,282
Balance at 1 January		408,198	349,916
Balance at 31 December		345,629	408,198

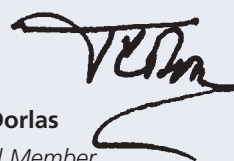
The Institute had no gains or losses in the Financial Year other than those dealt with in the Income & Expenditure Account.

The Statement of Accounting Policies and notes 1 to 13 form part of these financial statements.



Dervilla Donnelly

Chairman – Council of the Institute



Tony Dorlas

Council Member

Balance Sheet

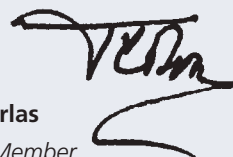
	Notes	2003 €	2002 €
Assets			
Fixed Assets	4	998,566	911,524
Current Assets:			
Cash on Hand and at Bank		1,955,450	1,341,671
Debtors and Prepayments		191,026	184,717
Total Assets		3,145,042	2,437,912
Less Liabilities			
<i>Creditors – Amounts falling due within one year</i>			
Creditors and Accruals		249,716	362,789
Projects	2	1,495,945	701,226
Creditors – Amounts falling due after one year	6	55,186	54,175
Total Liabilities		1,800,847	1,118,190
Net Assets		1,344,195	1,319,722
Financed by:			
Income and Expenditure Account		345,629	408,198
Capital Reserve	5	998,566	911,524
		1,344,195	1,319,722

The Statement of Accounting Policies and notes 1 to 13 form part of these financial statements.



Dervilla Donnelly

Chairman – Council of the Institute



Tony Dorlas

Council Member

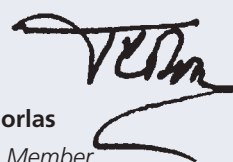
Cash Flow Statement

	Notes	2003 €	2002 €
Reconciliation of operating surplus to net cash inflow from operating activities			
Surplus/(Deficit) for year		(62,569)	58,282
Interest received	3	(23,119)	(19,616)
Increase/(Decrease) in Creditors		(112,062)	(48,768)
Decrease/(Increase) in Debtors		(6,309)	17,057
Net Increase in Research Programmes and Fees		794,719	423,018
Depreciation	4	261,303	186,561
Capital Reserve Transfer	5	87,042	179,205
Net Cash Inflow from operating activities		939,005	795,739
Cash Flow Statement			
Net Cash Inflow from operating activities		939,005	795,739
Returns on investments and servicing of finance			
Bank Interest Received	3	23,119	19,616
Capital expenditure			
Purchase of Tangible Assets	4	(348,345)	(365,766)
Increase in Cash		613,779	449,589
Reconciliation of net cash flow to movement in net funds			
Balance at 1 January		1,341,671	892,082
Balance at 31 December		1,955,450	1,341,671
Increase in Cash		613,779	449,589

The Statement of Accounting Policies and notes 1 to 13 form part of these financial statements.



Dervilla Donnelly
Chairman – Council of the Institute



Tony Dorlas
Council Member

Notes to the Financial Statements

1. Detailed Analysis of Income & Expenditure for the year ended 31/12/2003

	Notes	School of Celtic Studies €	School of Theoretical Physics €	School of Cosmic Physics €	Adminis- tration €	2003 Total €	2002 Total €
Income							
Oireachtas Grants		1,351,693	897,776	1,746,932	1,659,389	5,655,790	5,336,000
Sales of Publications		58,906				58,906	42,244
Project Income	2	2,292	57,003	678,923	32,436	770,654	629,726
Other Income	3	61,548	33,475	6,086	32,282	133,391	115,220
		1,474,439	988,254	2,431,941	1,724,107	6,618,741	6,123,190
Transfer (to)/from Capital Reserve		-	-	-	(87,042)	(87,042)	(179,205)
		1,474,439	988,254	2,431,941	1,637,065	6,531,699	5,943,985
Expenditure							
Payroll Costs	7	1,287,314	789,938	1,690,205	617,860	4,385,317	4,021,650
Project Costs	2	2,292	57,003	678,923	-	738,218	604,761
Library and Book Storage		40,780	98,849	65,918	16,717	222,264	204,020
Depreciation	4	-	-	-	261,303	261,303	186,561
Rent, Rates and Insurance		-	-	-	183,010	183,010	167,266
General Expenses	8	21,180	6,111	15,217	99,892	142,400	115,471
Travel and Seminar Expenses		34,189	14,911	59,327	7,742	116,169	128,634
Premises Maintenance and Security		2,004	1,428	7,421	155,668	166,521	116,408
Computer and Internet expenses		7,369	15,676	33,251	62,605	118,901	91,113
Fuel Light and Power		-	-	-	63,646	63,646	59,393
Postage and Telephone		-	-	-	62,010	62,010	59,354
Stationery		17,254	1,468	8,587	31,394	58,703	57,717
Publications		62,057	2,089	1,092	-	65,238	27,191
Advertising		-	781	-	9,787	10,568	23,230
Telescope collaboration costs		-	-	-	-	-	22,934
		1,474,439	988,254	2,559,941	1,571,634	6,594,268	5,885,703
Surplus/(Deficit) for year		-	-	(128,000)	65,431	(62,569)	58,282
Balance at 1 January		298,247	116,196	22,613	(28,858)	408,198	349,916
Balance at 31 December		298,247	116,196	(105,387)	36,573	345,629	408,198

2. Projects

	2003	2002
	€	€
Opening Balances	701,226	278,208
Receipts	1,565,373	1,052,744
	2,266,599	1,330,952
Closing Balances	(1,495,945)	(701,226)
Applied as Income	770,654	629,726

Income Allocation

School of Celtic Studies	2,292	-
School of Theoretical Physics	57,003	42,042
School of Cosmic Physics	678,923	563,016
	738,218	605,058
Administration	32,436	24,668
Total Project Income	770,654	629,726

Project Costs

	Celtic Studies	Theoretical Physics	Cosmic Physics	2003 Total	2002 Total
	€	€	€	€	€
Payments to Partners/Associates		-	280,550	280,550	426,664
Salaries/Scholarships		48,012	259,308	307,320	111,461
Travel		4,591	86,904	91,495	29,314
Other	2,292	4,400	52,161	58,853	37,322
Total	2,292	57,003	678,923	738,218	604,761

3. Other Income

	2003	2002
	€	€
Superannuation contributions	73,570	61,116
Bank interest	23,119	19,616
Fees & grants	714	20,924
Other*	35,988	13,564
Total	133,391	115,220

*Note: Included in the figure above are accruals written back due to expenditure not materialising (€31,362).

4. Fixed Assets

	Furniture & Equipment	Motor Vehicles	Computers	Total
	€	€	€	€
Cost				
Opening Balance 1/1/2003	1,632,736	63,627	2,117,479	3,813,842
Additions	246,637	0	101,708	348,345
	1,879,373	63,627	2,219,187	4,162,187
Depreciation				
Opening Balance 1/1/2003	1,129,934	41,722	1,730,662	2,902,318
Charge 2003	106,897	12,284	142,122	261,303
	1,236,831	54,006	1,872,784	3,163,621
Net book value 31/12/2003	642,542	9,621	346,403	998,566
Net book value 31/12/2002	502,802	21,905	386,817	911,524

5. Capital Reserve

	2003	2002
	€	€
Balance at 1 January	911,524	732,319
Transfer from/(to) Income and Expenditure Account		
Income allocated to acquire fixed assets	348,345	365,766
Amortisation in line with asset depreciation	(261,303)	(186,561)
Amount released on disposals	-	-
	87,042	179,205
Balance at 31 December	998,566	911,524

6. Creditors due after twelve months

	2003	2002
	€	€
These comprise:		
Vernam Hull Bequest	52,775	51,766
Carmody Fund	2,411	2,409
Total	55,186	54,175

The funds relating to the above are held on deposit. No amounts were utilised during the year.

7. Payroll Costs

	Celtic Studies	Theoretical Physics	Cosmic Physics	Admin.	2003 Total	2002 Total
	€	€	€	€	€	€
Salaries/Wages	963,800	470,683	1,200,410	574,994	3,209,887	2,857,866
Superannuation	230,015	105,037	339,050	42,866	716,968	700,111
Scholarships	78,122	130,806	123,848	-	332,776	266,748
Visitors	15,377	83,412	26,597	-	125,386	184,425
Honoraria	-	-	300	-	300	12,500
	1,287,314	789,938	1,690,205	617,860	4,385,317	4,021,650

8. General Expenses

	Celtic Studies	Theoretical Physics	Cosmic Physics	Admin.	2003 Total	2002 Total
	€	€	€	€	€	€
Miscellaneous	11,244	4,161	12,660	41,279	69,344	54,289
Promotions/Lunches	9,044	1,950	2,557	10,054	23,605	14,113
Professional Fees	-	-	-	16,000	16,000	13,040
Training	892	-	-	13,158	14,050	10,030
Audit Fee	-	-	-	11,000	11,000	10,000
Bank Charges	-	-	-	3,664	3,664	6,526
Health & Safety	-	-	-	4,737	4,737	5,144
ISOS General expenses	-	-	-	-	-	2,329
	21,180	6,111	15,217	99,892	142,400	115,471

9. Leasing

Operating Leases

The premises occupied by the Institute are leased from the Office of Public Works.

The commitment on foot of such leases in respect of 2004 is €55,519.

10. Superannuation

The Board operates a defined benefit superannuation scheme for its employees. Superannuation entitlements arising under the scheme are paid out of current income and are charged to the Income & Expenditure Account in the year in which they become payable. No provision is made in the financial statements in respect of future benefits.

For the accounting periods beginning on or after 1 January 2005, Financial Reporting Standard 17 will require financial statements to reflect at fair value the assets and liabilities arising from an employer's superannuation obligations and any related funding and to recognise the cost of providing superannuation benefits in the accounting periods in which they are earned by employees. As a transitional measure the Standard requires that the present value of scheme liabilities are disclosed in the notes to the 2003 financial statements. This information is set out below.

The superannuation scheme is unfunded and thus there are no assets set aside to meet future obligations.

Market Value 31/12/2003 €000s	
The market value of Assets	nil
Present Value of pension scheme liabilities	22,984
Net Deficit in pension scheme	(22,984)
Net Pension Asset	-
Net Pension Liability	22,984

A full actuarial calculation was carried out at 31st December 2003 by Mercer Human Resource Consulting. If the requirements of FRS17 had been implemented in full, the following shows the effect on the financial statements.

The financial assumptions used to calculate the components of the defined benefit cost for the year ended December 31, 2003 were as follows:

Valuation Method	Projected Unit
Discount Rate	5.50%
Inflation Rate	2.25%
Rate of Salary Increases	4.00%
Rate of Pension Increases	4.00%

10. Superannuation (continued)

Analysis of the amount which would be charged to operating profit is as follows:

	€000s
Current Service Cost	427
Past Service Cost	-

Analysis of the amount which would be treated as a finance cost:

Interest on scheme liabilities	1,127
Expected return on scheme Assets	-

Analysis of the amount which would be recognised in the statement of total recognised gains and losses is as follows:

Actual less expected return on scheme assets	-
Experience gains and losses	(713)
Changes in assumptions	(867)
Actuarial gain recognised	(1,580)

Analysis of the movement in surplus during the year is as follows:

Deficit at 1/1/2003	(20,577)
Current Service Cost	(427)
Contributions	728
Past Service Cost	-
Finance Cost	(1,127)
Actuarial gain	(1,580)
Deficit at 31/12/2003	(22,983)

11. Disclosure of Transactions

The Council of the Institute adopts procedures in accordance with guidelines issued by the Department of Finance in relation to the disclosure of interests by Council Members and these procedures have been adhered to by the Council Members during the year. No Council Member has declared an interest.

12. Contingent Liabilities

Legal proceedings against the Institute have been initiated by the former Registrar. It is not possible to anticipate the outcome of such proceedings nor their financial impact, if any.

13 Approval of Accounts

The Financial Statements were approved by Council on the 22nd April 2004.

Report of the Comptroller and Auditor General for presentation to the Houses of the Oireachtas

I have audited the financial statements on pages 36 to 46 under Section 28(3) of the Institute for Advanced Studies Act, 1940.

Respective Responsibilities of the Council and the Comptroller and Auditor General

The accounting responsibilities of the Council of the Institute are set out in the Statement of Responsibilities of the Council on page 33. It is my responsibility, based on the audit, to form an independent opinion of the financial statements presented to me by the Council and to report on them.

I review whether the statement on the system of internal financial control on pages 34 and 35 reflects the Institute's compliance with applicable guidance on corporate governance and report any material instance where it does not do so, or if the statement is misleading or inconsistent with other information of which I am aware from my audit of the financial statements.

Basis of Audit Opinion

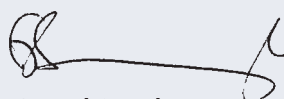
In the exercise of my function as Comptroller and Auditor General, I conducted my audit of the financial statements in accordance with auditing standards issued by the Auditing Practices Board and by reference to the special considerations which attach to State bodies in relation to their management and operation.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgments made in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations that I considered necessary to provide me with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming my opinion I also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In my opinion, proper books of account have been kept by the Institute and the financial statements, which are in agreement with them, give a true and fair view of the state of affairs of the Dublin Institute for Advanced Studies at 31 December 2003 and of its income and expenditure and cash flow for the year then ended.



Gerard Smyth

For and on behalf of the
Comptroller and Auditor General

28th April 2004



Ráitis Airgeadais

don bhliain dár críoch 31 Nollaig 2003

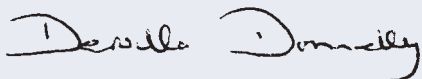
Ráiteas Freagrachtaí na Comhairle	50
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Ráiteas Freagrachtaí na Comhairle

Éilítear ar Chomhairle Institiúid Ard-Léinn Bhaile Átha Cliath faoi alt 28(2) den Acht um Institiúid Ard-Leighinn, 1940 le ráitis airgeadais a ullmhú ar shlí a cheadóidh an tAire Oideachais & Eolaíochta le comhthoiliú an Aire Airgeadais. Agus an Chomhairle ag ullmhú na ráitis airgeadais sin éilítear uirthi:

- polasaithe cuntasáíochta oiriúnacha a roghnú agus iad a chur i bhfeidhm go comhleanúnach;
- breithiúnais agus meastacháin a dhéanamh atá réasúnach agus stuama;
- na ráitis airgeadais a ullmhú ar bhonn gnóthais leantach mura bhfuil sé míchuí
- glacadh leis go leanfaidh an Institiúid ag oibriú; agus
- aon imeacht ábhartha ó chaighdeán chuntasaíochta is infheidhme a nochtadh agus a mhíniú

Tá freagracht ar an gComhairle leabhair chuntais chearta a choinneáil a nochtáíonn ag aon am le cruinneas réasúnach staid airgeadais na hInstitiúide agus a chuireann ar a cumas a chinntiú go gcloíonn na ráitis airgeadais le hAlt 28(2) den Acht. Tá freagracht ar an gComhairle sócmhainní na hInstitiúide a shlánú agus as céimeanna réasúnacha a ghlacadh le cosc a chur ar chalaíocht agus ar neamhrialtachtaí eile agus iad a aimsiú. Tá freagracht ar an gComhairle chomh maith a chinntiú go gcomhlíontar An tAcht um Íoc Pras Cuntas, 1997 mar atá sonraithe sna nótaí do na cuntais.



Dervilla Donnelly

Cathaoirleach – Comhairle Na hInstitiúide



Tony Dorlas

Comhalta Den Chomhairle

Ráiteas faoin gCóras Rialaithe Airgeadais Inmheánaigh

Freagracht as an gCóras Rialaithe Airgeadais Inmheánaigh

Thar ceann Chomhairle na hInstitiúide is mian liom ár bhfreagracht a chur in iúl lena chinntiú go ndéantar cothabháil agus go n-oibrítear córas rialaithe airgeadais inmheánaigh.

Ní féidir leis an gcóras ach dearbhú réasúnach agus ní dearbhú críochnaitheach a chur ar fáil go ndéantar slánú ar shócmhainní, go mbíonn idirbheartaíochtaí údaraithe agus taifeadta i gceart, agus go gcuirtear cosc ar earráidí ábhartha nó ar neamhrialtachtaí nó go n-aimseofaí iad i dtréimhse chaoithiúil.

Nósanna Imeachta Rialaithe Lárnacha

Tá céimeanna glactha ag an gComhairle lena chinntiú go mbeidh timpeallacht rialaithe chuí i bhfeidhm trí

- sainmhíniú soiléir a thabhairt maidir le freagrachtaí bainistíochta;
- nósanna imeachta foirmiúla a bhunú le teipeanna rialaithe suntasacha a thuairisciú agus lena chinntiú go dtógtar gníomh cuí leis an gceist a cheartú.

Tá próisis bunaithe ag an gComhairle le rioscaí gnó a aithint agus iad a luacháil trí

- nádúr, méid agus tionchar airgeadais na rioscaí a bhíonn os comhair na hInstitiúide a aithint lena n-áirítear méid agus catagóir a mheasann an Institiúid a bheith inghlactha;
- measúnú a dhéanamh ar an dóchúlacht atá ann go dtarlóidh na rioscaí aitheanta;
- measúnú a dhéanamh ar chumas na hInstitiúide na rioscaí a tharlaíonn a bhainistiú agus a mhaolú;
- measúnú a dhéanamh ar na costais a bhaineann le rialacháin áirithe a oibriú a bhaineann leis an sochar a bhaintear amach.

Tá an córas rialaithe airgeadais inmheánaigh bunaithe ar chreat oibre eolais bainistíochta rialta, nósanna imeachta riaracháin lena n-áirítear dualgais a roinnt, agus córas toscaireachta agus cuntasachta. Áirítear leis go háirithe:

- córas buiséid cuimsitheach le buiséad bliantúil a ndéanann Comhairle na hInstitiúide athbhreithniú air agus a bhíonn comhaontaithe aici;
- athbhreithnithe rialta ag an gComhairle ar thuairiscí airgeadais tréimhseacha agus bliantúla a léiríonn feidhmíocht airgeadais in aghaidh réamhaisnéisí;
- spriocanna a leagan síos le feidhmíocht airgeadais agus feidhmíocht eile a thomhas;
- treoirlínte rialaithe infheistíochta caipitil a bhíonn sainmhínithe go soiléir;
- disciplíní bainistíochta tionscadal foirmiúla.

Ráiteas faoin gCóras Rialaithe Airgeadais Inmheánaigh (ar lean)

I mí na Nollag 2001 bhunaigh Comhairle na hInstitiúide Coiste Iniúchta ar a raibh triúr comhaltaí neamh-fheidhmeannacha agus tá an próiseas curtha ar bun ag an gcoiste sin le hathbhreithniú a dhéanamh ar saincheistanna rialaithe inmheánaigh agus saincheistanna a d'ardaigh an tArd-Reachtair Cuntas agus Ciste. Le linn na bliana cheap an Institiúid Iniúcháirí Inmheánacha leis an bhfeidhm iniúchta inmheánaigh a dhéanamh a chuireann leis an anailís riosca a rinne an Coiste Riaracháin agus Airgeadais.

Bhíodh monatóireacht agus athbhreithniú na Comhairle ar éifeachtúlacht an chórais rialaithe airgeadais inmheánaigh bunaithe roimhe seo ar obair an Chláraitheora agus oifigigh eile laistigh den Institiúid atá freagrach as creat oibre rialaithe airgeadais cuí a fhorbairt agus a chothabháil. Ní hamháin go leanfaidh an Chomhairle ag lorg ionchuir ón gCláraitheoir agus ó fhoireann shinsearach eile maidir leis an ábhar seo, ach beidh sí ag brath ar thuairiscí agus ar thuairimí a dhéanfaidh an Coiste Iniúchta agus an tArd-Reachtair Cuntas agus Ciste ina litir bhainistíochta nó i dtuairiscí eile.

Athbhreithniú Bliantúil ar Rialacháin

Dearbhaím go ndearna an Bord athbhreithniú ar éifeachtachas chórais rialaithe airgeadais inmheánaigh na hInstitiúide sa bhliain dár críoch 31ú Nollaig 2003

Sinthe thar ceann Chomhairle na hInstitiúide



Dervilla Donnelly

Cathaoirleach – Comhairle Na hInstitiúide

22 Aibreán 2004

Polasaithe Cuntasaíochta

Ginearálta

Bunaíodh an Institiúid faoin Acht um Institiúid Ard-Leighinn, 1940. Áirítear ar a cuid feidhmeanna saoráidí a sholáthar le hard-léinn a chur chun cinn tuilleadh agus le taighde a dhéanamh i mbrainsí speisialtachta eolais. Tá trí Scoil inti - Scoil an Léinn Cheiltigh, Scoil na Fisice Teoiriciúla agus Scoil na Fisice Cosmaí.

Polasaithe Cuntasaíochta

1 Bunús Cuntasaíochta

Tá na ráitis airgeadais ullmhaithe ar bhonn fabhráithe faoin gcoinbhinsiún costais stairiúil agus de réir chleachtas cuntasaíochta a nglactar leo tríd is tríd. Glactar le Caighdeán Thuairiscithe Airgeadais a bhí molta ag na comhlachtaí cuntasaíochta aitheanta mar is infheidhme iad.

2 Deontais Oireachtais

Taispeántar ioncam ar bhunús airgid isteach.

3 Sócmhainní Seasta

Is éard is Sócmhainní Seasta ann ná troscán, trealamh, ríomhairí agus mótarfheithiclí na hInstitiúide agus taispeántar iad ag costas lúide dímheas carntha. Is mar seo a leanas atá na rátaí dímheasa, ríofa ar bhunús dronlíneach:

Troscán agus Trealamh	10%
Ríomhairí	25%
Mótarfheithiclí	25%

Faightear áitribh atá i seilbh na hInstitiúide ar léas ó Oifig na nOibreacha Poiblí.

4 Cúlchiste Caipitil

Léiríonn cúlchiste caipitiúil luach neamh-amúchta ioncaim a úsáidtear le Sócmhainní Seasta a cheannach.

5 Leabharlann

Discríobhtar caiteachas ar leabhair leabharlainne agus ábhair sa bhliain a dtabhaítear é.

6 Foilseacháin

Discríobhtar caiteachas ar fhoilseacháin sa bhliain a dtabhaítear é.

7 Aoisliúntas

Déantar freastal ar gach sochar aoisliúntais d'fhostaithe agus maidir le fostaithe na hInstitiúide faoi na scéimeanna aoisliúntais amach as deontais sa bhliain íocaíochta. Áirítear ranníocaí maidir leis na scéimeanna sin in ioncam eile.

Níl aon fhoráil déanta sna ráitis airgeadais seo i gcás sochair amach anseo.

8 Tionscadail

Léirítear ioncam agus caiteachas ar thionscadail sna ráitis airgeadais sa bhliain lena mbaineann siad.

Taispeántar barrachas nó easnamh tionscadail sna ráitis airgeadais nuair a léirítear sin.

Cuntas Ioncaim agus Caiteachais

	Notaí	2003 €	2002 €
Ioncam			
Deontas Oireachtais		5,655,790	5,336,000
Díolacháin Foilseachán		58,906	42,244
Tionscadail	2	770,654	629,726
Eile	3	133,391	115,220
		6,618,741	6,123,190
Aistriú (chuig)/ó Cúlchiste Caipitil	5	(87,042)	(179,205)
		6,531,699	5,943,985
Caiteachas	1		
Scoil an Léinn Cheiltigh		1,474,439	1,271,918
Scoil na Fisice Teoiriciúla		988,254	836,182
Scoil na Fisice Cosmaí		2,559,941	2,443,893
Riarachán		1,571,634	1,333,710
		6,594,268	5,885,703
Barraíocht/(Easnamh) don bhliain		(62,569)	58,282
Iarmhéid amhail an 1 Eanáir		408,198	349,916
Iarmhéid amhail an 31 Nollaig		345,629	408,198

Níl aon ghnóthachan ná aon chaillteanas ag an Institiúid sa Bhliain Airgeadais ach amháin iad sin a láimhsítear sa Chuntas Ioncaim agus Caiteachais.

Is cuid de na ráitis airgeadais sin é an Ráiteas Beartais Cuntasaíochta agus nótaí 1 go dtí 13.


Dervilla Donnelly
 Cathaoirleach – Comhairle Na hInstitiúide


Tony Dorlas
 Comhalta Den Chomhairle

Clár Comhardaithe

	Notaí	2003 €	2002 €
Sócmhainní			
Sócmhainní Seasta	4	998,566	911,524
Sócmhainní Reatha:			
Airgead sa Lámh agus ag an mBanc		1,955,450	1,341,671
Féichiúnaithe agus Réamhíocaíochtaí		191,026	184,717
Sócmhainní Iomlána		3,145,042	2,437,912
Lúide Dliteanais			
<i>Creidiúnaithe – Méideanna atá dlite laistigh de bhliain amháin</i>			
Creidiúnaithe agus Fabhruithe		249,716	362,789
Tionscadail	2	1,495,945	701,226
Creidiúnaithe - méideanna atá dlite tar éis bliana amháin	6	55,186	54,175
Dliteanais Iomlána		1,800,847	1,118,190
Sócmhainní Glana		1,344,195	1,319,722
Maoinithe ag:			
Cuntas Ioncaim agus Caiteachais		345,629	408,198
Cúlchiste Caipitil	5	998,566	911,524
		1,344,195	1,319,722

Is cuid de na ráitis airgeadais seo é an Ráiteas Beartais Cuntasaíochta agus na nótaí ó 1 go dtí 13.



Dervilla Donnelly
Cathaoirleach – Comhairle Na hInstitiúide



Tony Dorlas
Comhalta Den Chomhairle

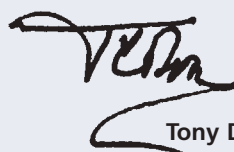
Ráiteas Sreabhadh Airgid

	Notaí	2003 €	2002 €
Réiteach barrachais oibríochta chuig glan-insreabhadh airgid ó ghníomhaíochtaí oibríochta			
Barrachas/(Easnamh) don bhliain		(62,569)	58,282
Ús infhaighte	3	(23,119)	(19,616)
Ardú/(Laghdú) i gCreidiúnaithe		(112,062)	(48,768)
Laghdú/(Ardú) i bhFéichiúnaithe		(6,309)	17,057
Glan-ardú i gCláir Thaighde agus Táillí		794,719	423,018
Dímheas	4	261,303	186,561
Aistriú Cúlchiste Caipitil	5	87,042	179,205
Glaninsreabhadh Airgead tirim ó ghníomhaíochtaí oibríochta		939,005	795,739
Ráiteas Sreabhadh Airgid			
Glaninsreabhadh airgid ó ghníomhaíochtaí oibríochta		939,005	795,739
Aischiú ar infheistíochtaí agus seirbhísí airgeadais			
Ús Bainc Infhaighte	3	23,119	19,616
Caiteachas Caipitiúil			
Ceannach Sócmhainní Inláimhsithe	4	(348,345)	(365,766)
Ardú ar Airgead		613,779	449,589
Réiteach glaninsreabhadh airgead tirim chuig gluaiseacht i nglanchistí			
Iarmhéid amhail an 1 Eanáir		1,341,671	892,082
Iarmhéid amhail an 31 Nollaig		1,955,450	1,341,671
Ardú ar Airgead Tirim		613,779	449,589

Is cuid de na ráitis airgeadais seo é an Ráiteas Beartais Cuntasíochta agus nótaí 1 go dtí 13.



Dervilla Donnelly
Cathaoirleach – Comhairle Na hInstitiúide



Tony Dorlas
Comhalta Den Chomhairle

Nótaí do na Ráitis Airgeadais

1. Anailís Shonraithe d'Ioncam & Caiteachas don bhliain dár críoch 31/12/2003

	Nótaí	Cheilteach	Léann Theoiriciúil	Fisic Chosmach	Fisic Riarachán	2003 Iomlán	2002 Iomlán
		€	€	€	€	€	€
Ioncam							
Deontais Oireachtais		1,351,693	897,776	1,746,932	1,659,389	5,655,790	5,336,000
Díolacháin Foilseachán		58,906	-	-	-	58,906	42,244
Ioncam Tionscadail	2	2,292	57,003	678,923	32,436	770,654	629,726
Ioncam Eile	3	61,548	33,475	6,086	32,282	133,391	115,220
		1,474,439	988,254	2,431,941	1,724,107	6,618,741	6,123,190
Aistriú (chuig) ó Chúlchiste Caipitil		-	-	-	(87,042)	(87,042)	(179,205)
		1,474,439	988,254	2,431,941	1,637,065	6,531,699	5,943,985
Caiteachas							
Costais Phárolla	7	1,287,314	789,938	1,690,205	617,860	4,385,317	4,021,650
Costais Tionscnamh	2	2,292	57,003	678,923	-	738,218	604,761
Stóráil Leabharlainne agus Leabhar		40,780	98,849	65,918	16,717	222,264	204,020
Dímheas	4	-	-	-	261,303	261,303	186,561
Cíos, Rátaí agus Árachas		-	-	-	183,010	183,010	167,266
Costais Ghinearálta	8	21,180	6,111	15,217	99,892	142,400	115,471
Costais Taistil agus Seimineáir		34,189	14,911	59,327	7,742	116,169	128,634
Cothabháil Áitribh agus Slándáil		2,004	1,428	7,421	155,668	166,521	116,408
Costais ríomhairí agus Idirlíon		7,369	15,676	33,251	62,605	118,901	91,113
Breosla Solas agus Cumhacht		-	-	-	63,646	63,646	59,393
Post agus Teileafón		-	-	-	62,010	62,010	59,354
Páipéarachas		17,254	1,468	8,587	31,394	58,703	57,717
Foilseacháin		62,057	2,089	1,092	-	65,238	27,191
Fógraíocht		-	781	-	9,787	10,568	23,230
Comhchostais teileascóp		-	-	-	-	-	22,934
		1,474,439	988,254	2,559,941	1,571,634	6,594,268	5,885,703
Barraíocht/(Easnamh) Don Bhliain							
larmhéid amhail an 1 Eanáir		-	-	(128,000)	65,431	(62,569)	58,282
larmhéid amhail an 31 Nollaig		298,247	116,196	22,613	(28,858)	408,198	349,916
larmhéid amhail an 31 Nollaig		298,247	116,196	(105,387)	36,573	345,629	408,198

2. Tionscadail

	2003	2002
	€	€
Olarhmhéideanna Tosaigh	701,226	278,208
Admhálacha	1,565,373	1,052,744
	2,266,599	1,330,952
Iarmhéideanna Deiridh	(1,495,945)	(701,226)
Curtha i bhfeidhm mar ioncam	770,654	629,726
Leithroinnt Ioncaim		
Scoil an Léinn Cheiltigh	2,292	-
Scoil na Fisice Teoiriciúla	57,003	42,042
Scoil na Fisice Cosmaí	678,923	563,016
	738,218	605,058
Riarachán	32,436	24,668
Ioncam Iomlán Thionscadal	770,654	629,726

Costais Tionscadal

	Léann	Fisic	Fisic	2003	2002
	Cheilteach	Theoiriciúil	Chosmach	Iomlán	Iomlán
	€	€	€	€	€
Íocaíochtaí chuig Páirtithe/Comhlachais		-	280,550	280,550	426,664
Tuarastail/Scoláireachtaí		48,012	259,308	307,320	111,461
Taisteal		4,591	86,904	91,495	29,314
Eile	2,292	4,400	52,161	58,853	37,322
Iomlán	2,292	57,003	678,923	738,218	604,761

3. Ioncam Eile

	2003	2002
	€	€
Ranníocaí Aoisliúntas	73,570	61,116
Ús bainc	23,119	19,616
Táillí & Deontais	714	20,924
Eile*	35,988	13,564
Iomlán	133,391	115,220

*Nóta: Tá fabhrúithe atá scríofa siar áirithe san fhigiúr thuas mar gheall ar chaiteachas nár tháinig i gcrích (€31,362).

4. Sócmhainní Seasta

	Trosán Mótarfheithicilí & Trealamh		Ríomhairí	Iomlán
	€	€	€	€
Costais				
Olarmhéid Tosaigh 1/1/2003	1,632,736	63,627	2,117,479	3,813,842
Breiseanna	246,637	0	101,708	348,345
	1,879,373	63,627	2,219,187	4,162,187
Dímheas				
Iarmhéid Tosaigh 1/1/2003	1,129,934	41,722	1,730,662	2,902,318
Muirear 2003	106,897	12,284	142,122	261,303
	1,236,831	54,006	1,872,784	3,163,621
Luach glan de réir na leabhar 31/12/2003	642,542	9,621	346,403	998,566
Luach glan de réir na leabhar 31/12/2002	502,802	21,905	386,817	911,524

5. Cúlchiste Caipitil

	2003	2002
	€	€
Iarmhéid amhail an 1 Eanáir	911,524	732,319
Aistriú ó/(chuig) Cuntas Ioncaim agus Caiteachais		
Ioncam leithroinnte le sócmhainní seasta a fháil	348,345	365,766
Amúchadh ag teacht le dímheas sócmhainní	(261,303)	(186,561)
Méid scaoilte ar diúscairtí	0	0
	87,042	179,205
Iarmhéid amhail an 31 Nollaig	998,566	911,524

6. Creidiúnaithe dlite tar éis dhá mhí dhéag

	2003	2002
	€	€
Comhdhéanta as: Vernam Hull Bequest	52,775	51,766
Carmody Fund	2,411	2,409
Iomlán	55,186	54,175

Tá an t-airgead a bhaineann leo seo sealbhaithe mar éarlais. Níor baineadh úsáid as aon mhéideanna le linn na bliana.

7. Costais Phárolla

	Léann	Fisic	Fisic	Riar.	2003	2002
	Cheilteach	Theoiriciúil	Chosmach		lomlán	lomlán
	€	€	€	€	€	€
Tuarastal/Pá	963,800	470,683	1,200,410	574,994	3,209,887	2,857,866
Aoisliúntas	230,015	105,037	339,050	42,866	716,968	700,111
Scoláireachtaí	78,122	130,806	123,848	-	332,776	266,748
Cuairteoirí	15,377	83,412	26,597	-	125,386	184,425
Honoraria	-	-	300	-	300	12,500
	1,287,314	789,938	1,690,205	617,860	4,385,317	4,021,650

8. Costais Ghinearálta

	Léann	Fisic	Fisic	Riar.	2003	2002
	Cheilteach	Theoiriciúil	Chosmach		lomlán	lomlán
	€	€	€	€	€	€
Ilghnéitheach	11,244	4,161	12,660	41,279	69,344	54,289
Tionscnaimh cur chun cinn/Lóin	9,044	1,950	2,557	10,054	23,605	14,113
Táillí Gairmiúla	-	-	-	16,000	16,000	13,040
Oiliúint	892	-	-	13,158	14,050	10,030
Táille Iniúchta	-	-	-	11,000	11,000	10,000
Muirir Bhainc	-	-	-	3,664	3,664	6,526
Sláinte & Sábháilteacht	-	-	-	4,737	4,737	5,144
Costais Ghinearálta ISOS	-	-	-	-	-	2,329
	21,180	6,111	15,217	99,892	142,400	115,471

9. Léasáil**Léasanna Oibríochta**

Tá na háitribh atá i seilbh na hInstitiúide ar léas ó Oifig na nOibreacha Poiblí.

Is é an tiomantas ar scór léasanna den sórt sin maidir le 2004 ná €55,519.

10. Aoisliúntas

Oibríonn an Bord scéim aoisliúntais sochair sainithe dá chuid fostaithe. Íoctar teidlíochtaí aoisliúntas a thagann chun cinn faoin scéim amach as ioncam reatha agus gearrtar ar an gCuntas loncaim agus Caiteachais iad sa bhliain ina mbíonn siad iníoctha. Níl aon foráil sna ráitis airgeadais maidir le sochair amach anseo.

I gcás thréimhsí cuntasáiochta ag tosú an 1 Eanáir 2005 nó dá éis, éileoidh Tuairisciú Airgeadais Caighdeánach 17 ráitis airgeadais chun léiriú a fháil ar shócmhainní agus ar dhliteanas ag an luach cothrom a thagann chun cinn ó oibleagáidí aoisliúntais fostóra agus aon mhaoiniú bainteach agus aitheantas a thabhairt don chostas a bhaineann le sochair aoisliúntas a sholáthar sna tréimhsí cuntasáiochta ina dtuilleann fostaithe iad. Mar bheart idirthréimhseach éilíonn an Caighdeán go nochtófaí luach reatha dliteanas scéime sna nótaí do na ráitis airgeadais 2003. Tá an t-eolas leagtha amach thíos.

Tá an scéim aoisliúntais neamh-mhaoinithe agus mar sin níl aon sócmhainní leagtha ar leataobh le freastal ar oibleagáidí amach anseo.

Luach ar an margadh	31/12/2003 €000s
Luach na Sócmhainní ar an margadh	nil
Luach láithreach na ndlitéanas scéime pinsin	22,984
Glan-easnamh sa scéim pinsin	(22,984)
 Glansócmhainn Pinsin	 -
Glandhlitéanas Pinsin	22,984

Rinne Mercer Human Resource Consulting ríomh iomlán achtúireach an 31ú Nollaig 2003. Dá mbeadh ceanglais FRS17 feidhmithe go hiomlán, léiríonn sé seo a leanas an tionchar a bheadh aige ar na ráitis airgeadais.

Bhí na boinn tuisceana airgeadais a úsáidíodh leis na comhchuideanna den chostas sochair sainithe a ríomh don bhliain dár críoch 31 Nollaig, 2003 mar seo a leanas:

Modh Luachála	Aonad Réamh-Mheasta
Ráta Lascaine	5.50%
Ráta Boilscithe	2.25%
Ráta Arduithe Tuarastal	4.00%
Ráta Arduithe Pinsean	4.00%

10. Aoisliúntas (ar lean)

Is mar seo a leanas atá an anailís ar an méid a ghearrfaí mar mhuirear ar bhrabús oibríochta:

	€000s
Costas Seirbhíse Reatha	427
Costas Seirbhíse Roimhe Seo	-

Anailís ar an méid a láimhseofaí mar chostas airgeadais:

Ús ar dhliteanais scéime	1,127
Aiscur tuartha ar Sócmhainní Scéime	-

Is mar seo a leanas atá an anailís ar an méid a d'aithneofaí sa ráiteas iomlán gnóthachain agus caillteanais aitheanta:

Iarbhír lúide aiscur tuartha ar sócmhainní scéime	-
Gnóthachain agus caillteanais taithí	(713)
Athruithe i mbonn tuisceana	(867)
Gnóthachain achtúireacha aitheanta	(1,580)

Tá anailís ar an ngluaiseacht barrachais le linn na bliana mar seo a leanas:

Easnamh amhail an 1/1/2003	(20,577)
Costas Seirbhíse Reatha	(427)
Ranníocaí	728
Costas Seirbhíse Roimhe Seo	-
Costas Airgeadais	(1,127)
Gnóthas Achtúireach	(1,580)
Easnamh amhail an 31/12/2003	(22,983)

11. Nochtadh Idirbheartaíochtaí

Glacann Comhairle na hInstitiúide le nósanna imeachta de réir threoirlínte atá eisithe ag an Roinn Airgeadais maidir le leasanna a nochtaíonn Comhaltaí na Comhairle agus chloígh Comhaltaí na Comhairle leis na nósanna imeachta sin le linn na bliana. Ní léirigh aon Chomhaltaí de chuid na Comhairle leas.

12. Dliteanais Teagmhasacha

Thionscain an tIar-Chláraitheoir imeachtaí dlí in aghaidh na hInstitiúide. Ní féidir toradh imeachtaí den sórt sin a thuar ná a dtionchar airgeadais, más ann.

13 Ceadú Cuntais

Cheadaigh an Chomhairle na Ráitis Airgeadais an 22 Aibreán 2004.

Tuarascáil an Ard-Reachtair

Cuntas agus Ciste le cur i láthair

Thithe an Oireachtais

Tá na ráitis airgeadais ar leathanaigh 53 go dtí 63 iniúchta agam faoi Alt 28(3) den Acht um Institiúid Ard-Léinn, 1940.

Freagrachtaí na Comhairle agus an Ard-Reachtair Cuntas agus Ciste faoi seach

Tá freagrachtaí cuntasáíochta Chomhairle na hInstitiúide leagtha amach sa Ráiteas um Fhreagrachtaí na Comhairle ar leathanach 50. Tá sé d'fhreagracht ormsa tuairim neamhspleách a dhéanamh, bunaithe ar m'iniúchadh, i leith na ráiteas airgeadais a chuir an Chomhairle i mo láthair agus tuarascáil a fhoilsiú orthu.

Scrúdaím an ráiteas ar leathanach 51 agus 52 ar an gcóras um rialú inmheánach airgeadais le féachaint an léirithe ar gur chomhlíon an Institiúid treoir infheidhmithe maidir le rialachas corparáideach agus tuairiscím ar aon chás ábhartha nach ndéanann an Institiúid amhlaidh, nó más rud é go bhfuil an ráiteas míthreorach nó nach dtagann sé le faisnéis eile atá ar eolas agam de bharr na ráitis airgeadais a bheith iniúchta agam.

An Bunús atá le mo Thuairim ar na Ráitis

I mbun m'fheidhme mar Ard-Reachtair Cuntas agus Ciste, rinne mé m'iniúchadh ar na ráitis airgeadais de réir na gcaighdeán iniúcháireachta arna n-eisiúint ag an mBord um Auditing Practices Board agus trí thagairt a dhéanamh do na nithe ar leith is gá a chur san áireamh

Déantar scrúdú mar chuid den iniúchadh, ar bhonn tástála, ar fhianaise a bhaineann leis na suimeanna agus leis an méid a fhoilsítear sna ráitis airgeadais. Chomh maith leis sin, cuimsíonn an t-iniúchadh

measúnacht ar na meastacháin agus ar na breitheanna suntasacha a rinneadh agus na ráitis airgeadais á n-ullmhú, agus measúnacht le féachaint an n-oireann na beartais chuntasaíochta don bhail atá ar chúrsaí na hInstitiúide, ar feidhmíodh na beartais sin ar bhealach leanúnach agus ar foilsíodh iad ar bhealach sásúil.

Phleanáil mé agus rinne mé m'iniúchadh sa chaoi is go bhfaighinn an fhaisnéis agus na mínithe ar fad a mheas mé a bheith riachtanach ionas go mbeadh leordhóthain fianaise agam a d'fhágfadh cinnteacht réasúnach ann go bhfuil na ráitis airgeadais saor ó mhíríteas ábhartha, cibé calaois nó neamhrialtacht eile nó earráid is cúis leis sin. I dteacht ar mo thuairim, rinne mé meastóireacht ar a shásúla is a cuireadh faisnéis i láthair sna ráitis airgeadais san iomlán freisin.

Tuairim

Is é mo thuairim go raibh leabhair chuntais chuí coinnithe ag an Institiúid agus go dtugann na ráitis airgeadais, a chomhaontaíonn leo, léargas fíorcheart ar staid chúrsaí Institiúid Ard-Léinn Bhaile Átha Cliath ag 31 Nollaig 2003 agus ar a hioncam agus ar a caiteachas agus ar a sreabhadh airgid thirim don bhliain dar críoch sin.

Gerard Smyth

Le haghaidh agus thar ceann
Ard-Reachtair Cuntas agus Ciste

28 Aibreán 2004